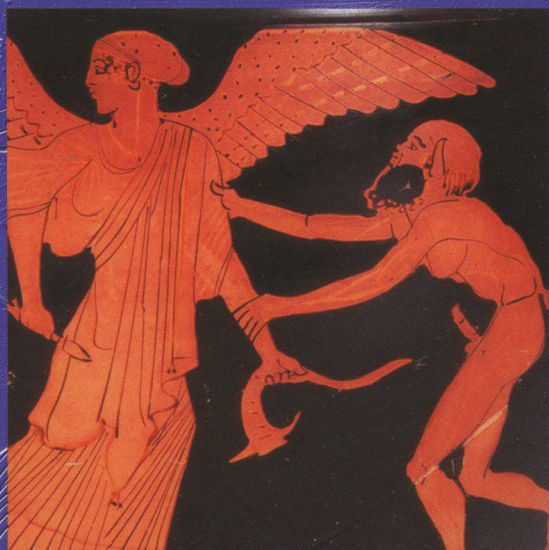


SKRIFTER UTGIVNA AV SVENSKA INSTITUTET I ATHEN, 4°, 55
ACTA INSTITUTI ATHENIENSIS REGNI SUECIAE, SERIES IN 4°, 55

Bones, behaviour and belief

The zooarchaeological evidence
as a source for ritual practice
in ancient Greece and beyond

Edited by Gunnel Ekroth
& Jenny Wallensten



STOCKHOLM 2013

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ABSTRACT

The importance of the zooarchaeological evidence as a source for ritual practices in ancient Greece is gradually becoming widely recognized. Animal bones form the only category of evidence for Greek cult which is constantly significantly increasing, and they can complement and elucidate the information provided by texts, inscriptions and images. This volume brings together sixteen contributions exploring ritual practices and animal bones from different chronological and geographical perspectives, foremost ancient Greece in the historical period, but also in the Bronze Age and as early as the Neolithic period, as well as Anatolia, France and Scandinavia, providing new empirical evidence from a number of major sanctuaries and cult-places. On a methodological level, the complexity of identifying ritual activity from the zooarchaeological evidence is a recurrent theme, as is the prominence of local variation visible in the bone material, suggesting that the written sources and iconography may offer simplified or idealized versions of the rituals actually performed. Although zooarchaeology needs to and should be integrated with other kinds of sources, the independent study of the bones in an unbiased manner is of utmost importance, as the bones can provide a different “reality” than that encountered in our other sources.

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Cover by Jannis Karydakis. Front cover, to the left: Attic red-figure skyphos by the Penthesilea Painter, 475–450 BC, Berlin, Antikensammlung, Staatliche Museen zu Berlin, inv. no. F 2591. Photo: Johannes Laurentius. To the right: experimentally defleshed bovine sacrum and tail. Photo: Gerald E. Weissengruber. Back cover, above: Attic red-figure bell-krater by the Painter of London E 494, 450–425 BC, London, British Museum E 494. From C. Smith, ‘Two vase pictures of sacrifices’, *JHS* 9, 1888, pl. 1. Below: sheep’s and pig’s tails burning on a coal fire. Photo: Gunnel Ekroth.

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Preface

Many people made this conference and publication possible and we wish to thank them all. For essential funding, we owe deep gratitude to Riksbankens Jubileumsfond, The Royal Swedish Academy of Letters, History and Antiquities, Helge Ax:son Johnsons Stiftelse and the Friends of the Swedish Institute at Athens. The Italian School of Archaeology at Athens generously allowed us to use their facilities during the two stimulating September days in 2009. The staff of the Swedish

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GUNNEL EKROTH & JENNY WALLENSTEN
Stockholm 2013

Introduction: bones of contention?

The purpose of this volume is to highlight the importance of the zooarchaeological evidence for our understanding of ancient Greek sacrificial rituals. The questions posed are of a fundamental nature. What can the animal bones offer us and how are they to be matched (or not) with our other sources? To what extent do these bones demonstrate a different picture than that provided by texts, inscriptions and images and are there rituals that may only be revealed by animal bones? The contributions presented here deal with these issues from different chronological and geographical perspectives, foremost from ancient Greece in the historical period, but also in the Bronze Age and as early as the Neolithic period, as well as from Anatolia, France and Scandinavia. Most papers were presented at a conference held at the Swedish Institute at Athens in September 2009, and a few have been added later to widen the scope of the volume. The results are both empirical and methodological, and point to new questions and methodological stands to be considered in the future.

The first paper, by Gunnel Ekroth, can be read as a statement of the importance of animal bones in the study of ancient ritual. Her contribution in particular addresses important specific questions concerning a seminal area of the study of Greek religion, namely sacrificial ritual. To a large extent, Ekroth focuses on methodological issues and shows by means of concrete examples why, when and where animal bones might provide crucial contributions to our understanding of Greek sacrificial practice. Zooarchaeological material complements and elucidates epigraphic and iconographic sources, concurrently providing new and vital information through the analysis of animal bone assemblages “on their own”.

But before the bones can be matched or not with our other evidence comes the tricky task of deciding whether they actually reflect some kind of ritual activity of the past or not. The complexities of interpreting the zooarchaeological evidence within the archaeological context are in fact touched upon in most papers. Armelle Gardeisen draws on examples

from proto-historical sites in southern France, asking what a faunal assemblage actually can tell us, and what we make it tell us through inference from the find context. Her paper demonstrates how the analysis of the bone material shows tangible traces of the ancient interplay between man and animal, and the presence of animals in “human” space. Gardeisen underlines that the next level of interpretation of the bone evidence, that of the character of the activities or events that created the examined deposition has to be done without an *a priori* of the surrounding archaeological conditions in general, or strict preconceived models. Zooarchaeological material from a domestic context can in fact be the remains of a religious ritual, whereas animal bones from a sanctuary context might be the remains of a domestic activity. Gardeisen thus touches upon another major issue of the volume: how to draw the line between the sacred and the profane.

In an Iron Age Scandinavian context, Maria Vretemark discusses the apparent discrepancy between the great official sacrifices of the written and iconographical sources and the rich archaeological find material. In the former, offerings of a more restricted private sphere and a domestic context are not mentioned, nor is the habit of depositing votives in wetlands or under stones. Her particular case study revolves around the distinction between zooarchaeological remains that result from a performed ritual and those that are simply kitchen or slaughter waste. At the heart of such an analysis lies the recognition of what has been deposited where: is there no functional explanation for the deposition, the find context or the treatment of an artefact? To show and discuss the complexity of votive contexts, Vretemark presents three case studies: animal offerings in bogs, in wells and waterholes, and finally in settlement contexts. She concludes with a list of criteria that may indicate ritual activity, but stresses simultaneously that any interpretation must be done on a case-by-case basis, due to the complexity of the material.

These two studies dealing with France and Scandinavia are complemented by Katerina Trantalidou’s contribution,

which discusses the range of possible interpretations of zooarchaeological evidence from Greek contexts. Not all animal bones recovered in an area designated as sacred have to derive from rituals performed there, and therefore we need to scrutinize our methodological tools and define which elements will allow us to reconstruct ritual practices. A large body of empirical evidence from recent excavations in Greece, some as yet unpublished, is taken into consideration and this material clearly demonstrates the variations in the handling of bones between different sites. Trantalidou hereby emphasizes the importance of proper field archaeological methods, a crucial aspect in the study of animal bones, in particular as regards the stratigraphy, in order to define the duration of the activities, and a constant awareness of the relation between the zooarchaeological finds and other archaeological evidence. Furthermore the quantities of animal bones recovered must be taken into consideration.

Valasia Isaakidou and Paul Halstead's article also addresses methodological questions of if and how to identify ritual and/or sacrificial activity, by means of zooarchaeological remains. A deposition of burnt animal bones discovered in the "Palace of Nestor" in Pylos is tentatively identified as the remains of a burnt bone sacrifice; this case study then opens a discussion of Mycenaean animal sacrifice in a wider chronological perspective. The authors argue that the contrast between a stress on the collective and egalitarian in the Neolithic Aegean and on the individual and social differentiation in the Bronze Age, visible in for example architecture, funerary practice and material culture, finds a correspondent in the (treatment of) animal remains. Zooarchaeological material is demonstrated to be a valuable tool in detecting ancient behaviour and changes thereof in a "fundamental and long-term" perspective. The selection and handling of particular parts of animals by burying the bones after the meat had been consumed are practices which can be traced in the prehistoric periods, i.e. long before Greek Archaic and Classical times. This observation provides important insights into how the rituals of later periods may have developed.

A striking feature of the zooarchaeological evidence is the variety that we encounter, underlining the possibilities the animal remains have in revealing the particular conditions at a particular site. Such a local perspective is brought out by Hélène Brun and Martine Leguilloux through the analysis of the material from two altars discovered in one of the sanctuaries of Sarapis on the Cycladic island of Delos (the so-called Sarapieion C). The authors reconstruct an ancient sacrifice, from the designation of the animal to be offered, to the slaughter and allotment of a portion to the gods and the final deposition of the burnt remains. The Sarapieion C has yielded two deposits that offer several possibilities for comparisons, firstly between themselves, then with other Delian finds, and finally

with finds from other sanctuaries of the oriental gods in the Graeco-Roman world, such as the Isis sanctuaries of Mainz (Germany) and Belo (Spain) and Mithraea of the Roman world in general. A contextualized analysis demonstrates not only rites specific to the sanctuary in question (in this case the Sarapieion C on Delos) and their possible development through time, but can also shed light on worship of the oriental gods at other locations.

Another study of a restricted local context with possible implications for a much larger geographical perspective is to be found in Deborah Ruscillo's paper, which presents an examination of material from the sanctuary of Demeter on Mytilene. Excavation at this site revealed a series of altars and an ash pit that in turn yielded a large quantity of burnt piglet bones. Deborah Ruscillo explores this evidence within the context of the Thesmophoria festival and its much-discussed rites: the deposition of piglets in underground caverns (the so-called *megara*) and the subsequent recovery of their rotting remains. She underlines the need for scholarly open-mindedness when studying ancient beliefs and ritual behaviour, in particular as many religious practices of the ancient world may seem absurd to modern society. Ruscillo's contribution is a thought-provoking one, as she proposes to understand the archaeological and textual sources not only in the light of the zooarchaeological remains, but with the addition of an ethological angle as well. She suggests that the presence of snakes in the *megara* pits was vital to the Thesmophoric ritual and that these animals acted not only as vague fertility symbols, as is usually assumed, but had a more concrete function to fulfil within the ritual.

In an outlook that brings us far beyond the Greek world, chronologically and geographically, Sabine Sten presents an osteological and zooarchaeological investigation of rich cremation burials from the Late Iron Age (AD 400–1050) in east-central Sweden. The bone material collected from a group of monumental burial mounds in this area is exceptionally large and Sten's study shows that the bones, hidden from view, must have matched the imposing impression the graves gave as striking landmarks in the surrounding landscape. Not only were the deceased individuals presented with food offerings, as revealed by bones from cattle, sheep and pig; the dead also set out on the journey to the world beyond in the company of horses, dogs and sometimes birds of prey. The latter in particular indicate the high status of the buried person, since they point to the practice of falconry.

The variations revealed by the zooarchaeological evidence suggest that the rituals we encounter in texts, inscriptions and images may constitute simplified versions, schematizations or ideal situations, whereas the bone material represents remains from specific rituals fixed in time and space. Of particular interest are therefore zooarchaeological assemblages that differ

or contradict the information we find in the texts, inscriptions and images, or that provide information that is only evidenced in the bone material. The issues of concern here are not only the ritual actions performed but also the animals involved, where the rituals took place and how and where the remains were deposited or dumped after the conclusion of the ritual.

Such matters are brought to the fore in Dimitra Mylona's contribution, in which she presents an intriguing deposit from the Sanctuary of Poseidon at Kalaureia on the Greek island of Poros. The deposit was found in a cistern and is datable to the Early Roman period; it was created on a single occasion or possibly over several occasions but certainly during a very short period of time. It contains a large amount of remains from a variety of animals normally not found together: "usual" sacrificial species such as cattle, sheep, pig, and goat, but also more "unusual" animals such as donkey, dogs, snakes, frogs, fish, birds and birds' eggs. Mylona goes on to contextualize her results from the analysis of these animal remains through a survey of the written sources. This in turn provokes questions of what was in fact considered "unusual" in ancient times and what is unusual to us, as well as of how to combine archaeological and zooarchaeological material with texts. When should we let the two reinforce each other and when should we leave them apart to present differing pictures of religious practices? Mylona suggests that the Kalaureia cistern provides us with an instance where the bones tell of habits of which the authors of the surviving texts for some reason chose not to make mention.

The relation between texts and bones is also touched upon by Michael MacKinnon, who discusses material from the sanctuary of Zeus at Nemea. It has long been accepted that a local pantheon might include variations of gods and myths that clash with Panhellenic deities and stories found in literary accounts and iconography; such variations clearly existed in sacrificial ritual as well. MacKinnon shows how a close examination of the zooarchaeological material indicates that Zeus of Nemea was honoured with sacrifices that differed from those of the local hero Opheltes/Archemoros; to Zeus the right legs of the animal victims were burnt, while the hero received the left legs. On the other hand, there are no zooarchaeological indications that the hero received holocausts, where the entire animal was burnt, as has often been claimed in scholarship on the basis of later written sources. Furthermore, certain remains previously thought to stem from sacrificial rituals should rather be understood as dining debris. In the case of Nemea, the presence of burnt animal bones has been used to name find contexts "ritual", "sacrificial" or similar, and MacKinnon stresses the importance of careful analysis in a strictly limited local context, as well as

against the wider perspective of our collected knowledge of Greek culture before any such labelling is done.

Another case of bone material vs. written sources derives from a Hittite context. Taking as his starting point a deliberately buried, disarticulated sheep skeleton, Peter Popkin explores the benefits of combining textual evidence with zooarchaeological data as he reconstructs a Hittite sacrificial ritual and identifies several possible stages that make up the sacrifice and deposition. His case study concerns Kilise Tepe, a site situated far from the Hittite heartland that produced most of the texts on ritual that have come down to us and which have for long dominated the research on Hittite animal sacrifice. Popkin focuses on the discrepancies between texts and zooarchaeological remains, underlining the seminal contribution of the latter for knowledge of *local* ritual habit. Smaller sites far removed from the Hittite heartland "likely engaged in regional ritual practices not officially recognized or recorded by centrally located scribes"; the zooarchaeological evidence thereby becomes of the highest importance for recognizing and understanding regional variations in ritual behaviour. The bone material from Kilise Tepe is also of importance for the discussion of how we are to define and understand the zooarchaeological material recovered. Are the bones in this particular case the actual sacrifice or do they constitute the deposition of the remains after a sacrifice has been performed?

With a case study from Scandinavia, Ola Magnell reconstructs a sacrifice, from the selection of an animal to the deposition of its bones. The importance of taphonomic evidence is demonstrated in connection with a Viking Age cult site on the Swedish island of Frösö, where bones of sacrificed animals, both wild and domestic, were deposited on the ground by a birch tree, later to be covered by a church. As in Popkin's paper, certain features of the deposition can be understood against the background of information provided through textual sources. Magnell suggests, for example, that the birch tree could have been identified in ritual with the world-tree Yggdrasil. In the Eddic verses, Yggdrasil shelters the squirrel Ratatosk and four deer feed on its leaves; among the ritually deposited material were bones of squirrel and deer. But the Frösö zooarchaeological material also calls for a cautious use of the old Norse literary evidence, because horse, in sharp contrast to its favoured position as sacrificial animal in the textual sources, was not important in the rituals at the prominent cult site of Frösö. Furthermore, the custom of hanging whole carcasses of sacrificed animals in trees, mentioned in texts, was not among the local Frösö traditions, where instead parts of animals were deposited on the ground.

As zooarchaeology provides a new category of source material there are still many and major practical and methodological issues to deal with, not at least the empirical practical-

ities of collection, analysis and presentation of the evidence. It becomes increasingly clear that proper field archaeological methods are paramount if animal bones are to be used as a source on the same level as texts, inscriptions and images. On a fundamental level, it still needs to be stressed that sieving and water flotation of a sufficiently large sample is a prerequisite if zooarchaeological remains are to constitute relevant evidence for the cultic situation at a particular site: the lack of fish in a sanctuary, for example, cannot be ascertained unless such methods have been employed. Furthermore, archaeologists need to ensure that all kinds of bones are considered, as zooarchaeological studies of sanctuary evidence often tend to focus on larger mammals, and usually the kinds we eat today.

Tatiana Theodoropoulou brings to the fore one such category of faunal remains often neglected by modern research, as well as by the ancient textual and epigraphic sources: marine invertebrates. Against the background of a shell assemblage found *in situ* in the so-called adyton of a temple in the ancient Cycladic town of Kythnos, she combines a zooarchaeological study of the identified shells with a spatial analysis of the architectural remains. Through surveys of the literary sources and remains of marine fauna found in other sanctuaries, she then proceeds to place the Kythnos shells in a wider geographical and chronological context, in order to examine what they can tell us about the worshipped deity and his or her adherents.

Another methodological issue concerning how to approach the zooarchaeological evidence is the use of practical experiments in order to elucidate or recreate a ritual, a tantalizing but tricky process. Aware of the scepticism present in the scholarly community towards experimental archaeology, Gerhard Forstenpointner, Alfred Galik and Gerald E. Weisengruber point to several successful attempts at advancing our knowledge of ancient ritual practice through this method, such as Michael Jameson's identification of a puzzling iconographic detail as a burning and curving oxtail, and the authors' own reconstruction of a *bomos keratinos*, a "horn altar". However, this paper also points to a major problem of experimental archaeology, namely foregone conclusions. The authors find the approach often to be hampered by overly biased hypotheses that foresee the result of the experiment and therefore they propose relatively simple experiments which try to clarify technical problems, which in turn will yield the most probable—and very clear—answers.

The volume is closed by the reactions and commentaries by scholars working on Greek cult from texts, inscriptions, images and other archaeological remains in order to provide something of an outsider's perspective. Scott Scullion's paper has a twofold aim: it starts by surveying old problems, to which zooarchaeology has provided new possible answers, and then ventures into the seminal discussion of Greek meat-

eating in the context (or not) of sacrificial ritual. Zooarchaeological material now shows that animal species traditionally thought not proper to offer as sacrifice to the gods were certainly consumed in sanctuaries, and from other sources it appears that meat from animals that had not been sacrificed could be eaten, even inside a sanctuary. Scullion argues that scholars have been far too categorical when drawing a sharp, not to say definite, line between the Greek concepts of sacred and profane and suggests a "tapering off" of sacrality that would allow for a much less rigorous attitude towards what can or cannot be eaten, inside and outside sanctuaries, and thereby a different attitude towards the sacred than has hitherto been postulated.

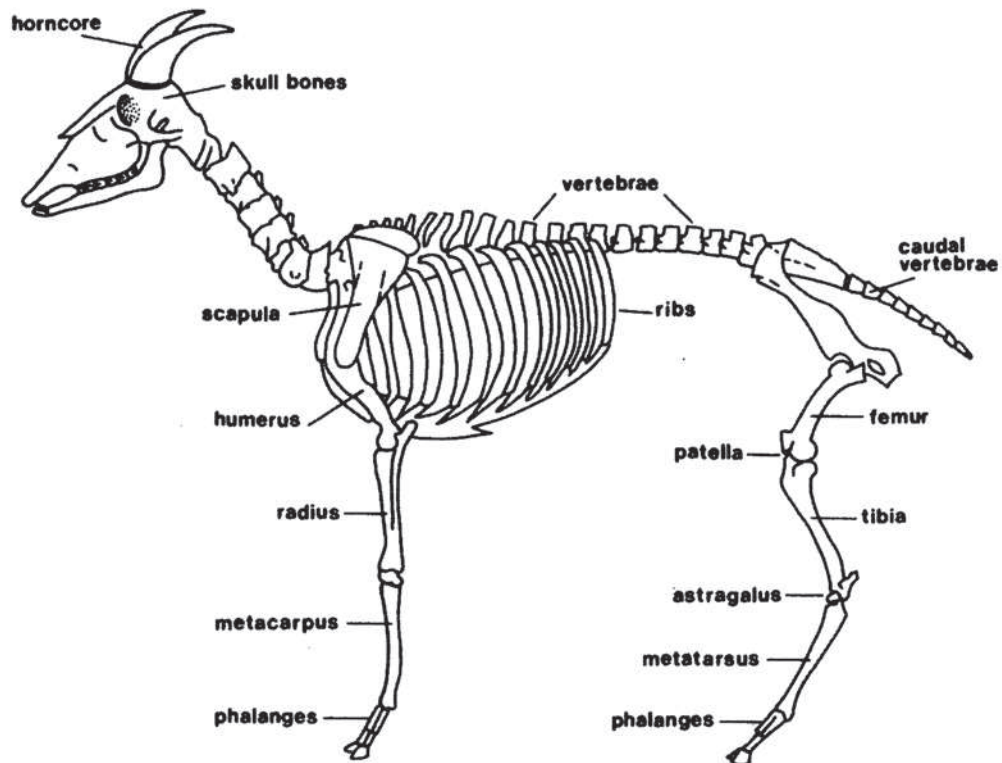
Similarly Stella Georgoudi, Véronique Mehl and Francis Prost in their concluding reflections point to the possibilities of the zooarchaeological evidence to broaden our understanding of the other sources and question some of the fundamental categories and theories of Greek religion often taken for granted, such as the Olympian-chthonian dichotomy and its validity in the study of sacrificial ritual. They suggest that the notion of "Le sacrifice grec" should be replaced by an awareness of the many "Greek sacrifices" possible in order to encompass the high degree of flexibility and occasional nature of many rituals. But they also warn against a selective use of other sources to clarify the animal bone material, for example the iconography of ancient vases, as well as putting too much faith in the zooarchaeological evidence alone. A holistic approach is to be desired, integrating various kinds of evidence, as each category presents its own difficulties and often leads to focus on one or a few aspects of animal sacrifice.

In the end, it seems that although zooarchaeology needs and should be integrated with other kinds of sources, the independent study of animal remains is of utmost importance. Bones can provide a different "reality" than that encountered in literary, epigraphic and iconographic sources and it is essential that this "reality" is explored in an unbiased manner, not influenced, guided by or adapted to the information found in texts, inscriptions or images, and not only with the intent to clarify or match the other sources. In this process the methodological difficulties inherent in each category of evidence should not be overlooked. Naturally no one can be an expert in all areas and this fact brings out the importance of collaboration over the disciplines between scholars working on different kinds of material. The guiding principle must be a mutual respect for each other's competences and knowledge. Furthermore, different specialists must define their own particular needs and which kind of information they desire from their colleagues.

We may conclude that the study of zooarchaeological material as part of the exploration of ancient Greek religion, as well as other cult practices of the past, is a process that has

barely started, but which has excellent prospects to develop and enrich our understanding of Greek cult. A database of the extant zooarchaeological deposits in ritual contexts around the Mediterranean would be of great help to map this situation. For Greece, comparative material from domestic settings is also needed to complement the evidence from sanctuaries. The present volume, *Bones, behaviour and belief*,

can be seen as a part of the current development where bone material is taken as seriously as are ancient texts, inscriptions and images, even though this may lead to the re-evaluation of many of today's given scholarly truths. Considering the pace in which the study of animal bones is progressing, a conference on the same or similar theme within a not too distant future would be of great interest.



Skeleton of a goat with indications of major bones. Illustration from D. Reese, 'Faunal remains from the Altar of Aphrodite Ourania, Athens', Hesperia 58, 1989, 65, fig. 1. Used with permission.

What we would like the bones to tell us: a sacrificial wish list

Abstract*

Animal bones comprise the only category of evidence for Greek cult which is constantly significantly increasing. The use of ever more sophisticated excavation methods demonstrates the importance of zooarchaeological material for the study of Greek religion and how such material can throw light on texts, inscriptions and images, as the animal bones constitute remains of actual ritual actions and not mere descriptions or representations of these actions. This paper outlines some areas where the zooarchaeological evidence may be of particular pertinence, for example, in elucidating the complex and idiosyncratic religious terminology of shares of sacrificial victims mentioned in sacred laws and sacrificial calendars, or in providing a context for a better understanding of the representations of animal parts on Attic vases. The role of meat within ancient Greek society, the choice of sacrificial victims and the handling of “non-sacrificable” animals such as game, dogs and equids within Greek cult can also be clarified by comparisons with the animal remains.

At a conference organized by the Swedish Institute at Athens more than two decades ago, a scholar presented a paper dealing with the distinctions between Bronze Age and Iron Age sacrificial practices. Animal bones formed an important part of the argument. The discussion that followed primarily concerned the animal bone evidence and how it may contribute to our understanding of ritual contexts. The scholar giving the paper urged excavators to publish any animal remains in much greater detail and to give specifics such as species, conditions and find contexts, so that the zooarchaeological evidence could be used as a basis for a better understanding of Greek cult. The discussion was closed, somewhat abruptly, by the laconic comment by one of the other participants, also a well-known scholar of Greek religion. He said: “Let us not get lost in technicalities”.¹

* The article is part of my project *Greek sacrifice in practice, belief and theory*, funded by Riksbankens Jubileumsfond 2007–2010.

¹ The paper in question was delivered by Birgitta Bergquist (1988). For the comments on the (limited) value of animal bones by Bernard Dietrich, see Bergquist 1988, 34 (discussion).

To look at animal bones in great detail when studying Greek religion, is that to get lost in technicalities? And, if that is the case, is it necessarily a bad thing? One wonders what the ancient Greeks themselves would have thought. Bones *were* fundamental to animal sacrifice and to Greek religion. They lie at the centre of the action when Prometheus tricks Zeus at Mekone in the myth of how animal sacrifice came to be instituted, as told by Hesiod in the *Theogony*.² Prometheus hides the bare bones of the slaughtered ox in the glistening, obviously appetizing fat, and it is the sight of these bones instead of the meat which causes Zeus’ anger. He banishes men from the tables of the gods and orders them in future to burn the white bones on the altars, as a reminder of this event. The handling of the animal bones marks the separation of gods and men.³

Also in real, practised cult, such bones formed the core of the ritual. At a regular Greek, animal sacrifice, a *thysia*, the communication with the gods was enabled by the burning of bones on the altar: the thighbones, the *meria* or *meroi* in Greek, and the *osphys*, which consisted of the sacrum, which is the back part of the pelvis, and the caudal vertebrae.⁴ The smoke from the burning bones rose to the sky and made it possible for the gods to profit from the sacrifice. But the animal remains recovered in Greek sanctuaries do not only constitute evidence for the interaction between immortals and mortals, they also provide us with information about the actions of the people present at the sanctuaries, on their choices, habits and behaviour, what they ate, how they prepared their food and what their tastes were. The prominent presence of animal bones in Greek sanctuaries has recently been highlighted by a Hellenistic inscription stating Μη ἐποστεύειν ἐν

² Hes. *Theog.* 535–557. For the interpretation, see Vernant 1989.

³ See Rudhardt 1970 for this event as the origin of the institution of *thysia* sacrifice.

⁴ On the *meria* and *osphys*, see van Straten 1995, 118–141; Ekroth 2009, for the zooarchaeological remains.

τῶι ἱερῶι—“Don’t throw bones in the sanctuary!”⁵ Apparently there could be so many bones around that this had to be regulated.

Greek religion has been thoroughly explored for more than a century. Starting from philology, then epigraphy, scholarship has gradually ventured into iconography and archaeology. However, there is still so much we do not know, partly since the sources do not tell us, partly since they apparently did not wish to tell us. The texts, inscriptions, vases and reliefs constitute choices of how to represent Greek sacrifices and they are not necessarily evidence for *wie es eigentlich gewesen war*. Archaeology, and especially zooarchaeology, can offer us a diverse perspective. Still, few studies have attempted to discuss Greek sacrificial ritual and zooarchaeological evidence in a more comprehensive manner.⁶ This is certainly due to the fact that the information able to be derived from the bones has only recently been acknowledged, even though Paul Stengel, the scholar who initiated the study of Greek sacrificial ritual, in fact remarked at the beginning of the 20th century on the zooarchaeological material from a sanctuary.⁷

The reasons for focusing on the zooarchaeological evidence as a source for Greek ritual practices are several. First, the quantity of bone material is growing. Zooarchaeology definitely provides a constantly increasing category of evidence for Greek sacrificial ritual. It is not likely that a new *lex sacra* as complex and rich as the one from Selinous, or a vase painting as detailed as the Ricci hydria, will surface in the next few years, though of course it is possible.⁸ A good set of animal bones, on the other hand, will certainly be available from the next excavation of a Greek cult place, as long as the proper methods are used: sieving and flotation followed by publication in great detail by experts. Secondly, the bones provide us with direct evidence of the cultic activity at a specific site, thus bringing to light local ritual practices. Thirdly, zooarchaeology may reveal facets of Greek cult practice, which are rarely or never found in written and icono-

graphical sources.⁹ One may say that the texts and the images present us with the picture that the Greeks wanted to convey, while the animal remains will tell us what they actually did, whether or not they wanted us to know about it.

The correlation between the zooarchaeological material and other kinds of evidence is therefore of fundamental importance. What can animal bones reveal that we do not find in the texts, inscriptions and images? To what extent can the information from these bones confirm, complement or contradict what we learn from our other sources? In order to illustrate the potential of the zooarchaeological evidence for the study of Greek sacrificial ritual, some examples of the empirical and methodological importance of bones for our understanding of the written and iconographical sources will be given.

Inscriptions

Let us begin with the epigraphical evidence, the sacred laws and sacrificial calendars, which form a treasure trove for anyone interested in Greek sacrifice. The inscriptions offer us a plethora of expressions indicating how the animals sacrificed to the gods were to be divided and distributed.¹⁰ Much of this terminology is pure Greek to us, so to speak, when it comes to understanding to which parts of the animal each term refers. The vocabulary is frequently rare and sometimes unique, and the explanations offered by the scholiasts and grammarians of late antiquity often leave a lot to be desired. Here the zooarchaeological evidence becomes highly interesting.

Two examples will illustrate this situation. A regulation for a cult of Dionysos from Miletos, dated to ca 275 BC, lists the perquisites that the priestess will receive at sacrifices to the god. Mentioned here are *splanchna*, i.e. edible intestines grilled at the altar, as well as a kidney, entrails, the tongue, the so-called “sacred share” and the σκέλος εἰς κοτυληθόνα ἐκτετμημένον.¹¹

⁵ REG 112, 2009, 395, no. 23, from a sanctuary of Artemis in the territory of Alyzia, Aetolia. I owe this reference to Robert Parker.

⁶ For recent surveys of zooarchaeological evidence from Greek sanctuaries see Hägg 1998; Kotjabopoulou *et al.* 2003; Leguilloux 2004; Reese 2005; MacKinnon 2007a, 490–491; MacKinnon 2007b, 17–19; Ekroth forthcoming.

⁷ Stengel 1910, 200, concerning the sanctuary of Aphrodite at Kotilos at Bassai, the bones being said to derive from smaller species among which were hares.

⁸ For the Selinous *lex sacra*, see Jameson, Jordan & Kotansky 1993. On the Ricci hydria, see van Straten 1995, 222, V154, pl. 122.

⁹ As examples can be mentioned the Classical and Early Hellenistic “Pyre deposits” of pottery and burnt animal bones near the Athenian Agora (Camp 1999, 278–280; Camp 2003, 247–249; Jordan & Rotroff 1999) and the enormous funerary sacrifice of more than 50 animals excavated at the foot of the staircase at the entrance to the tomb chamber of the Mausoleion at Halikarnassos, dated to around 350 BC (Jeppesen, Højlund & Aaris-Sørensen 1981; Højlund 1983).

¹⁰ On the terminology of sections of meat in the epigraphical evidence, see Le Guen-Pollet 1991; *NGSL, passim*; Lupu 2003; Ackermann 2007; Dimitrova 2008; Scullion 2009.

¹¹ LSA 48, line 16–18. For the last expression, see also LSA 52 B, line 6–7, a decree concerning the sale of a priesthood of Asklepios, Miletos, 1st century AD.

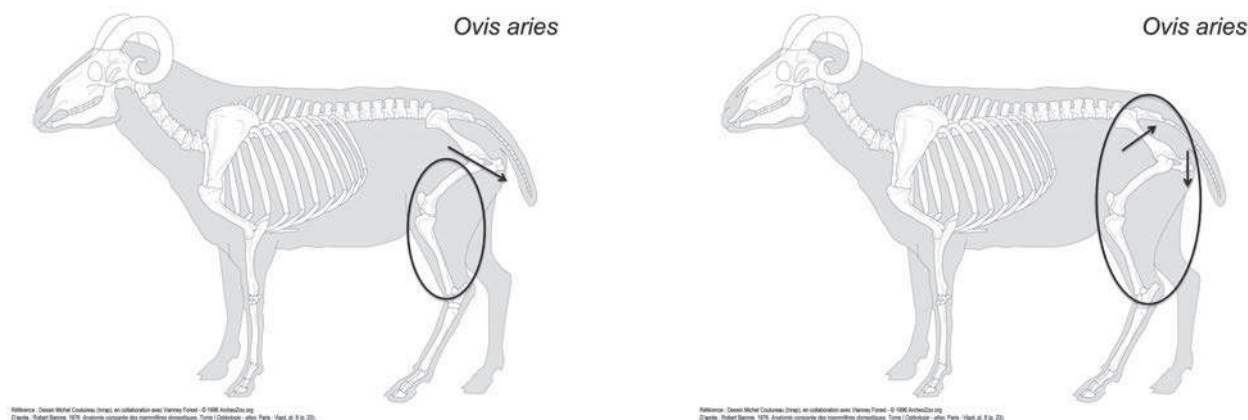


Fig. 1a & 1b. Butchering patterns that are suggested to correspond to the terms *skelos* and *skelos eis kotyledona ektetmemenon*, respectively. Drawing from Archéozoo (www.archeozoo.org).

The precise meaning of these various parts has been the subject of much debate, as is the case in most texts that regulate priestly shares. Let us focus only on the *skelos eis kotyledona ektetmemenon*. What would this part consist of? *Skelos* is the term for the hind leg and this section of the sacrificial victim was frequently given to the priest.¹² The precision of this leg as *eis kotyledona ektetmemenon* suggests that in this case the leg is something else than just a regular *skelos* or hind leg.¹³ *Kotyledon* means a cup-shaped hollow, in particular the acetabulum, the socket of the hip where the head of the thighbone joins the pelvis. The verb *ektemnein*, “to cut out”, would indicate that the hind leg was separated from the trunk at the pelvis-femur joint, which is standard practice in butchering in most cultures, including our own. However, as this is the most obvious way to separate the hind leg from the body, why was it necessary to define it so extensively in this case? What is the distinction between the *skelos eis kotyledona ektetmemenon* and an ordinary *skelos*?

If we look at the zooarchaeological evidence, it is obvious that the hind legs of the sacrificial victims were not separated from the body in the same manner at every sanctuary, though standard practice seems to have been to remove the hind leg at the hip joint. Such variations in butchering methods may help us understand what is meant in the inscription. Sometimes the femur was carefully cut from the pelvis with a knife, while in other instances it was roughly freed with a cleaver

resulting in the head of the femur being chopped off.¹⁴ In some deposits the pelvis has been cut through at its narrow point (the corpus ossis ilium) as well as where the two halves of the pelvis grow together (the symphysis pelvis).¹⁵ In the last case, the hind leg would be removed from the body with a part of the pelvis still fastened to the thighbone, a way of butchering which results in a large section of meat from the lower back and the rump of the animal being attached to the hind leg (Fig. 1). Such a leg would contain substantially more meat than a simple *skelos*, presumably being a hind leg cut off at the pelvis-femur joint. This particular kind of division may be specifically what is intended by the expression *skelos eis kotyledona ektetmemenon*, corresponding to an unusually substantial choice cut of meat. The butchering visible in the bone material may thus offer a clarification of the terminology of the sacred law or at least give us a suggestion of how to understand it.

There are numerous sacrificial terms that will hopefully one day be elucidated by the animal bone evidence. The ideal situation would of course be a match between bones and inscriptions from the same site, but even if we do not have a direct correspondence between geography and chronology, the bones can give us a chance to pass beyond the laconic enu-

¹² See Le Guen-Pollet 1991, 17–18; Ekroth 2008, 265; Tsoukala 2009, 6–10.

¹³ Le Guen-Pollet 1991, 17, suggests that the leg had been cut off at the knee.

¹⁴ At Eretria and Miletos, the thighbones had been freed with a knife, see Studer & Chenal-Velarde 2003, 178; Peters & von den Driesch 1992, 124; cf. Reese & Ruscillo 2000, 459. At Samos and at the sanctuary of Apollo Hylates on Cyprus, a cleaver was used, see Boessneck & von den Driesch 1988, 7; Davis 1996, 181, and sometimes the acetabulum was broken, see Boessneck & von den Driesch 1988, 6. The patella could also be left attached to the femur, see Studer & Chenal-Velarde 2003, 175–178; Peters & von den Driesch 1996, 181.

¹⁵ This is the case at the huge funerary sacrifice at the Maussolleion at Halikarnassos, see Højlund & Aaris-Sørensen 1981, 68–71.



Fig. 2a & 2b. Attic red-figure cup, Kimbell Art Museum AP 2000.02, Forth Worth, Texas, Douris, ca 480 BC.
© Kimbell Art Museum, Forth Worth, Texas.



meration of parts to be given to the priests and the fanciful explanations provided by the *Suda* and other lexicographical sources.

My second epigraphical example concerns the famous *lex sacra* from Selinous, dating to ca 450 BC. Among the many sacrifices outlined in this document there is one to Zeus Meilichios.¹⁶ At this ritual, which seems to be an ordinary *thysia* where the animal, a ram, was eaten, there was also to be a *theoxenia* ceremony, that is, a feasting of the god with a table

with food to which the divinity was invited as the guest of honour.¹⁷ At the end of this ritual, a hind leg of the ram and meat offerings from the table were to be burnt, as well as the bones, *ta ostea*.

Which bones are referred to here and why are they burnt? Bones are hardly ever mentioned in the religious inscriptions so the textual evidence is of little help. The *ostea* are unlikely to be the thighbones and the tail usually burnt on the altar as the god's portion, as the burning of these particular bones

¹⁶ Jameson, Jordan & Kotansky 1993, 14–15, lines A 18–20.

¹⁷ For the *theoxenia* element, see Jameson, Jordan & Kotansky 1993, 67–70; Jameson 1994, 43–45; cf. Gill 1974.

seems to have been such a standard practice that it did not have to be spelled out.¹⁸ The bones rather represent a deliberate increase of the share of the victim burnt for the god, who would not only receive the standard thighbones and tails, but also an entire hind leg with the meat and the defleshed bones, an action which presumably must have had a particular function within the ritual. If we turn to the zooarchaeological evidence, however, possible parallels to such an extended burning of bones can be found in sanctuaries. At Isthmia, parts from the entire skeleton apart from the forelegs were burnt on the long altar for Poseidon.¹⁹ At Kommos on Crete, the burnt thighbones from Altar U were supplemented with fragments of ribs, skulls, vertebrae and forelegs.²⁰ The zooarchaeological evidence suggests that the *ostea* in the Selinous inscription are not a unique and isolated feature.

Why more bones were burnt at Selinous, Isthmia and Kommos is a complex issue, best explained by the ritual context. At Selinous a *theoxenia* ceremony takes place and the *thysia* sacrifice was enhanced by a table with meat, thereby giving the god more. The inclusion of bones in this ritual, and the fact that they were to be burnt at the end of the ceremony, may have been an additional way of increasing the gifts for the gods. The Selinous inscription and the zooarchaeological assemblages from the altars at Isthmia and Kommos, being composed of a variety of burnt bones, may reflect a previously unrecognized manner of performing *theoxenia*, where the god was given not only meat, but also bones.²¹

Images

Bones did not particularly catch the imagination of Greek artists. Mythological representations contain a few remarkable instances. A Corinthian vase shows Herakles and Hesionē confronting the Monster of Troy, here depicted as a huge white skull with prominent teeth, perhaps inspired by the finding of a large mammal fossil.²² There is also a most interesting red-figure calyx-krater showing Herakles saving

his fiancée from being married off to a centaur.²³ When Herakles enters the room, the centaur is so startled that his right hand lashes out and the large bone he holds flies away, hitting a servant on the head, causing him to bleed. Below the tail of the centaur, the bone is seen falling to the ground, a unique element in Athenian vase painting. Another explicit depiction of bones protruding from flesh is found in another mythological scene, the gruesome tearing apart of Pentheus by his mother and the Theban women (Fig. 2).²⁴ Seen here are the femora sticking out of the thighs and the tibiae from the lower legs, and even some ribs from the thorax.

If we turn to iconography linked to religion, a few more bones are found. A famous Classical stele from Thespiai depicts a boar's skull and mandible as well as a bovine skull (Fig. 3).²⁵ Altars and buildings, from the Hellenistic period onwards, also bear representations of bucrania.²⁶ There are also depictions of animal skulls in sacrificial scenes on vase paintings, including bucrania lying on altars.²⁷ The bones most frequently rendered on the vase paintings are those forming the



Fig. 3. Thebes, Archaeological Museum 154. Stele from Thespiai, 4th–3rd century BC. Photo: museum.

¹⁸ Occasional examples of bones mentioned in sacred laws and sacrificial calendars, see the fragmentary cult regulation for Herakles, from Miletos, ca 500 BC, see *LSA* 42, line B 2. Possibly the *meroi* in the regulation of the deme Phrearrhioi (ca 300–250 BC) also concern the divine share to be burnt (*NGSL*, no. 3, lines 16–17 with commentary; Lupu 2003, 73–74), but they may also be part of the priestly perquisites, see Ekroth 2013. For the bones usually burnt at a *thysia*, see Ekroth 2009.

¹⁹ Gebhard & Reese 2005, 126, 128, 144 and 149–152, Table 1.

²⁰ Reese & Ruscillo 2000, 441, Table 6.2 and pls. 6.3 and 6.4.

²¹ This issue is discussed in more detail in Ekroth forthcoming.

²² Boston, Museum of Fine Arts 63.420, ca 560–540 BC. For the appealing explanation of the skull as a fossil, see Mayor 2001, 157–165 and fig. 4.1.

²³ A large fragment of the vase has been in the Louvre (G 345) since 1863, while the rest was sold on the Swiss market in 2000, see *CVA*, Paris, Louvre 3, III I d, pl. 8: 1 & 4, 9: 1 & 4; Cahn 2000, 28, no. 74.

²⁴ Shown on an Attic red-figure kylix by Douris, ca 480 BC now in the Kimbell Art Museum (AP 2000.02), Forth Worth, Texas, see Buitron-Oliver 1995, pl. 73, no. 121; *LIMC* VII (1994), s.v. Pentheus, no. 43, pl. 259 (J. Bazant & G. Berger-Doer).

²⁵ van Straten 1995, R57, fig. 78, dedicated to Zeus Karaïos by a group of *sysaitoi*, dinner club companions.

²⁶ For altars with bucrania, see Yavis 1949, 148–152; Fraser 1977, 16–17 and 27–28; Berges 1986, 42–45, 80–81, 91 and 103–104. Buildings: Umholtz 2008. See also Börker 1975.

²⁷ Beazley 1939, 35. For skulls on altars, see an Attic red-figure oinochoe in Kiel, Antikensammlung Kunsthalle B 55, ca 425–400 BC, van Straten 1995, V382, fig. 168; perhaps also a votive relief in Dresden, Skulpturensammlung Albertinum ZV 1190, ca 350–300 BC, Tagalidou 1993, 233, no. 33, pl. 14. The display of bucrania in sanctuaries is indicated by epigraphical evidence, see Blinkenberg 1941, 179–180, lines C 103, 110–111 and 114.



Fig. 4. Attic red-figure bell-krater, London, British Museum E 494, Painter of London, 450–425 BC.
Photo: © Trustees of the British Museum.

tail of the victim, the *osphys*, which is usually shown burning and curving in the fire on the altar, the ultimate sign of *hierakala*, the benevolent divine acceptance of the sacrifice (Fig. 4).²⁸ Interestingly, practical experiments have shown that these representations correspond closely to the behaviour of real tails of cows, sheep or pigs, when placed in a fire (Fig. 5).²⁹

There are no representations of the bones to be burnt for the gods being cut out from the meat, though a black-figure



Fig. 5. Real sheep's and pig's tails burning on coal fire. Photo: author.

²⁸ *Osphys* on the altar: van Straten 1995, 118–121; van Straten 1988, 61–66; Gebauer 2002, 352–443; Ekroth 2009, 132–134. A handful of representations show Iris carrying the *osphys*, see Gebauer 2002, 443 and Bv 73–Bv 77; *LIMC* V (1990), s.v. Iris, nos. 110, 111, 113 and 115 (A. Kossatz-Deissmann).

²⁹ For the curving of the tail as shown by practical experiments, see Jameson 1983, 60–61 and fig. 3; Ekroth 2009, 149 and fig. 7.

oinochoe in Boston, showing sacrificial butchering, has been suggested as rendering the head of the thighbone and the trochanter major (also part of the proximal end of the femur) by two small white dots of paint, thus depicting the act about to happen (Fig. 6).³⁰ The thighbones, *meria*, wrapped in fat, are iconographically elusive, but may also be depicted, if we are to follow Gerhard Forstenpointner's ingenious interpretation of a red-figure bell-krater in the Louvre, where a bearded man is placing an amorphous bundle on a burning altar.³¹



Fig. 6. Attic black-figure oinochoe, Boston, Museum of Fine Arts 99.527, Class of Vatican G 47, 500–475 BC. Photo: © 2010 Museum of Fine Art, Boston.

³⁰ Boston, Museum of Fine Arts 99.527, ca 500–475 BC, van Straten 1995, V213, fig. 157; Durand 1989, 101.

³¹ Forstenpointner 2003. Paris, Louvre G 496, 425–400 BC, van Straten 1995, V200, fig. 152. See Forstenpointner *et al.* in this volume, 237, fig. 5.



Fig. 7. Attic red-figure bell-krater, Frankfurt 413, Hephaistos Painter, 450–440 BC. Photo: © Archäologisches Museum Frankfurt.

A vase in Frankfurt could also be interpreted as showing such a parcel of fat and bones being placed in the fire (Fig. 7), while a fragment in the British Museum constitutes a third case, where the bundle is shown behind the curving tail (Fig. 4).³²

Of great interest in relation to zooarchaeology are the many Attic vases showing hind legs of animals, presumably cattle or sheep, being carried, received or given away.³³ Some of these legs occur in scenes where sacrificial activity takes place and considering that the importance of the hind leg as a priestly perquisite is made clear by the inscriptions, it seems safe to assume that all such representations of legs are to be connected with sacrifice in some sense (cf. Fig. 6).³⁴ These legs demonstrate some interesting features (Fig. 8). First of all, they have a very limp appearance, most likely indicating that the thighbones have been removed in order to be burnt

on the altar, constituting a further indication that the legs derive from sacrificed animals. The result of this action is a floppy leg, the *gigot mou* in Jean-Louis Durand's term, and the legs on the vases are in fact very similar to real de-boned hind legs of sheep.³⁵

Secondly, the hoof is always depicted as clearly visible. Hoofs are also represented as being chewed on by dogs lying under tables in banqueting scenes, where people are eating and drinking (Fig. 9), as well as in a number of other motifs where dogs can be found.³⁶ The presence of hoofs still attached in the representation of hind legs and the cut-off hoofs in banqueting scenes is surprising, as it is usually taken for granted that the lower parts of the legs including the hoofs were removed at the initial division of the animal at butchering. This assumption is supported by most animal



Fig. 8. Attic red-figure kylix, Munich, Staatliche Antikensammlungen 2674, Makron, 500–475 BC. Photo: Staatliche Antikensammlungen und Glyptothek München, Renate Kühling.

³² Frankfurt VF b 413, ca 450–440 BC, van Straten 1995, V178, fig. 126; London, British Museum E 494, ca 450–425 BC, van Straten 1995, V367, fig. 124.

³³ For an overview of the evidence, see Durand 1984; Tsoukala 2009.

³⁴ For example, London, British Museum B 362, van Straten 1995, V160, fig. 123; Rome, Villa Giulia, Gebauer 2002, S 3a, fig. 137; Florence, Museo Archeologico 15189, Gebauer 2002, Z 5, fig. 167. For the link between the legs and sacrifice, see further Durand 1984; Gebauer 2002, 332–337; Tsoukala 2009.

³⁵ Durand 1984, 32.

³⁶ Dogs under the table: red-figure fragment by Makron in a private collection in Paris, see Kunisch 1997, pl. 100.304; black-figure cup, München, Antikensammlungen 2082, *CVA, München* 13, pl. 27, 1–2 (Deutschland, pl. 3887). Dog next to singing man on a platform: black-figure pelike, Otago Museum, Dunedin 48.226, *CVA, New Zealand* 1, pl. 17, 1–4 (New Zealand, pl. 17); among youths taming bulls: black-figure hydria, Berlin, Antikensammlung F1900, Schnapp 1977, 265, fig. 224.

bone assemblages from Greek cult sites, apart from the sanctuary of Apollo Hylates at Kourion on Cyprus, where entire legs seem to have been burnt.³⁷ Possibly the vase scenes indicate that the hind legs of sacrificial animals, from which the thighbones were removed and burnt, were given a different treatment from the other legs of a sacrificial victim, as the hoof was left in place. If that was the case, the hoof gnawed by the dogs may be a sign that the meat consumed by the banqueters in these vase paintings was not any kind of food but had a particular and prestigious origin, being hind legs of sacrificial animals.³⁸

The role of meat: sacred, secular or something else?

After these specific cases, let us move on to questions of a more methodological nature. One of the major issues of Greek religion and the role of animal sacrifice within ancient Greek society is whether all meat was linked to religion and therefore sacred in some sense, and if all killings of animals were perceived as animal sacrifices.

There is a certain degree of hesitation among modern scholars to accept that all meat was linked to the sacred sphere in ancient Greece.³⁹ This reluctance is both due to influence from Christian attitudes to sacrifice and meat, and to the fact that slaughter and meat consumption in our modern societies is a predominantly secular issue. Scholars have also pointed to contexts in which the Greeks seem to have killed animals and eaten their meat that cannot be linked to sacrifice, such as hunts. Furthermore, mention in the literary sources of the consumption of animals which we tend not to consider fit for sacrifice, or even from animals that had died from natural causes, have further been used as an argument for all meat not being sacred. What is often forgotten is the fact that our interpretation of the ancient evidence depends on how we define animal sacrifice. What is a sacrifice?

To answer this question lies outside the scope of this short paper, but when it comes to animal species, the zooarchaeological material from Greek sanctuaries provides us with a different picture from that of the texts and the images, and this should lead us to reconsider our notions. If we look at the bones, it seems that there was a distinction between the species actually sacrificed at the altar and from which certain parts were burnt for the gods, that is, a *thysia* ritual, and the species that were eaten at the meals that took place in the sanctuaries.⁴⁰ Cattle, sheep and goats were sacrificed at the altar, had select bones burnt and were finally eaten. Pigs were also eaten, but these animals are rarely found among the burnt thighbones and tails from the altar deposits.⁴¹ If burnt pigs appear, they are usually piglets and they have been burnt whole, though entire unburnt piglets were also deposited.⁴² Within the consumption debris from sanctuaries we find cattle, sheep, goats and pigs, but also equids, dogs and a variety of wild animals.⁴³ It thus seems clear that not all of the meat eaten within a sanctuary came from animals killed at the altar, having their *meria* and *osphys* burnt for the gods. This situation can lead us to diversify our understanding of sacrifice, ritual slaughter and meat consumption, which to a large extent is based on the information in the written and iconographical sources.

The zooarchaeological evidence from sanctuaries suggests that the handling of animals and the consumption of their meat were more complex activities than our rudimentary categories “sacred” and “secular”, or sacrifice and simple slaughter, will allow for. I have suggested elsewhere that it may be useful to distinguish between *sacrificial* and *sacred* meat.⁴⁴ Sacrificial meat can be defined as coming from the animals killed at the altar, by which communication with the divine was established. Sacred meat would be the rest of the meat consumed in the sanctuary, which came from animals killed there in a ritually less elaborate manner or even brought to the sanctuary already slaughtered.⁴⁵ Such a perspective may better allow us to comprehend the variety in species that the Greeks killed and ate.

³⁷ For the lack of lower legs and feet in the dinner deposits from sanctuaries, see Gardeisen 1996, 807; Vila 2000, 201; Boessneck & von den Driesch 1988, 4, Table 2; Leguilloux 2000, 346, for the 4th century BC altar of Zeus/Jovis at Poseidonia where less than 1% of bone assemblage from the ca 50 slaughtered cattle consisted of feet and lower legs. Sanctuary of Apollo Hylates, Kourion: Davis 1996; Davis 2008, 66, Table 2; pers. comm. D. Reese.

³⁸ An Early Classical red-figure cup in the Hermitage (B.4509) shows a woman with an *obelos* next to a large basin over which a de-boned hind leg with the hoof still attached is suspended. In her right hand, the woman holds what looks like a cut-off hoof, see *CVA, St. Petersburg, Hermitage* 5, pl. 21, 1 (Russia, pl. 560); Gebauer 2002, Z 17, fig. 179.

³⁹ For the discussion, see Berthiaume 1982; Ekroth 2007, 251–255; Parker 2010.

⁴⁰ Ekroth 2007; Ekroth 2009.

⁴¹ Ekroth 2009, 136–137.

⁴² For burnt piglet remains, see Ruscillo 1993, 209; Bookidis & Stroud 1997, 98. Unburnt piglets, see Forstenpointner 2001, 68.

⁴³ Ekroth 2007, 263–266.

⁴⁴ Ekroth 2007, esp. 269.

⁴⁵ See also the discussion by Scullion, this volume.



Fig. 9. Madrid, Museo Arqueológico Nacional 10916 (L65), Attic black-figure amphora, Leagros Group. Photo: museum.

Game, dogs and other neglected species

Modern research has often drawn a strict line between the domesticated and the wild when it comes to the handling of animals within the religious sphere of the ancient Greeks.⁴⁶ Hunting is a field where there still is a large disagreement as to the role and contribution of this activity to the sacrificial system and the meat consumption of the Greeks. Traditionally hunting has been placed outside the frame of animal sacrifice, since the victims will not be brought alive to the altar, nor will they come there peacefully and willingly. However, the tranquil, agreeing victim has been demonstrated to be a modern construct more than an ancient reality, and this opens up the field for the uses of game within the sacrificial rituals.⁴⁷

Animal bones indicate the presence of game in sanctuaries.⁴⁸ These animals are not found among the altar debris but in the remains of meals, although at Kalapodi, no *sacra* were recovered from bones of the red deer, fallow deer, roe deer and wild boars, suggesting that these animals may have been given the same ritual treatment as the domesticated species.⁴⁹ There are occasional representations of deer as sacrificial victims, while stone altars can bear representations of bucrania of deer.⁵⁰ Xenophon states that a hunt was part of the festival in the cult of Artemis at Skyllous (*Anab.* 5.3.37). The Archaic bronze plaques from Kato Syme Viannou on Crete show youths carrying wild animals, entire ones or parts of them, presumably to be sacrificed, or rather dedicated, in a sanctuary.⁵¹ Even if deer, wild goats and boars were not frequently killed at the altar, they may still have been an essential component of the ritual, used as offerings of meat, raw or cooked, as they are present among the zooarchaeological material recovered in Greek sanctuaries. The role and function of such animals within Greek cult will hopefully be elucidated by

the animal bone evidence in the future. Greek sacrificial ritual apparently was much more than *thysia* sacrifice of cattle, sheep and goats.

Another animal for which zooarchaeology may give important insights is the dog. Literary sources record dog sacrifices to Hekate and Enyalios, where the animals were halved and then burnt or thrown away in order to purify and propitiate, thus not involving any consumption.⁵² On the other hand, dog meat was recommended in the Hippocratic corpus as a suitable kind of food for the sick and weak, in order to speed up their recovery.⁵³ Dogs are found among the dinner debris in some sanctuaries, for example at the *Aire sacrificielle* at Eretria and the sanctuary of Poseidon at Isthmia, though not among the burnt material from the altars.⁵⁴ What are we to make of these butchered dogs recovered with the bones of cattle, sheep, goats and pigs? Was the dog only a marginal animal, eaten in worst-case scenarios or by the sick or the poor? Or could the odd dog be used to supplement the meat distributed at a sacrifice in addition to the meat from the actual sacrificial victim?

A small group of vases depicting dogs can serve as an illustration of the complexity of this issue. A red-figure lekythos in Athens showing a woman holding a dog and a sacrificial basket, a *kanoun*, next to three torches, is usually considered to depict a non-alimentary sacrifice to Hekate, where the dog is being deposited whole into a pit (*Fig. 10*).⁵⁵ On a recently published Boeotian vase we see a child dressed in a priestly garb holding knife, extending his hand to a small dog, a representation suggested to refer to a purificatory dog sacrifice in a kourotophobic context (*Fig. 11*).⁵⁶ Is this an allusion to an actual ritual or is it perhaps meant as a joke? Finally, there is a lekythos in Rome (*Fig. 12*), showing a woman standing next to a column giving a dog a piece of meat.⁵⁷ Who is this woman and where is she? This scene could be interpreted as a cosy feeding of the family pet at home but it may also represent the nourishing of an animal in a sanctuary, either a sacred one, as known from Epidauros and Piraeus, or a dog that would later be sacrificed.⁵⁸ Hopefully the zooarchaeological

⁴⁶ Stengel 1910, 197–201; Durand & Schnapp 1989; Detienne 1989, 5, 8 and 37–38; Schnapp 1997, 246–247 and 265. For a highly interesting discussion of deer as sacrificial victims, see Larson forthcoming.

⁴⁷ Georgoudi 2005; Naiden 2007.

⁴⁸ For evidence for game, see Ekroth 2007, 257–258 and 263–264; Larson forthcoming.

⁴⁹ Stanzel 1991, 162.

⁵⁰ For possible representations of deer sacrifice, see a votive relief from Aigina, Athens, National Archaeological Museum 1950, late 5th century BC, *ThesCRA* I, 15, no. 91, and a red-figure cup in Rome, Villa Giulia, no number, ca 510–500 BC, Gilotta 1995, pl. 19:a–b; Gebauer 2002, S 3a, fig. 137. For the relation between hunting and sacrifice within iconography, see also Durand & Schnapp 1989; Schnapp 1997, 246–247 and 265. For stags' heads on altars, see Berges 1986, 51–52; Fraser 1977, pls. 43c, 71c, 73d and 86a, dated to the Hellenistic–Early Roman periods.

⁵¹ Lembessi 1985, 128–136, for example, A 9, A 10, A 37, A 47, A 50, A 56, pls. 3, 6, 22, 29, 30, 32, 47–50.

⁵² Theophr. *Char.* 16.13; Zaganiaris 1975, 323–328; Ekroth 2007, 265.

⁵³ Ekroth 2007, 265; Roy 2007, 347–348.

⁵⁴ Eretria: Studer & Chenal-Velarde 2003, 180. Of the 119 identified bones, 9% are canine. Isthmia: Gebhard & Reese 2005, 140. See also Ekroth 2007, 258–259. For the evidence of dog remains in Greek settlement contexts and burials, see Trantalidou 2006.

⁵⁵ Athens, National Archaeological Museum 1695, ca 440–430 BC; van Straten 1974, 179, fig. 30.

⁵⁶ Athens, National Archaeological Museum 12591, ca 420 BC; Avronidaki 2008, 9–14.

⁵⁷ Rome, Academia dei Lincei 2478, ca 470–460 BC.

⁵⁸ On sacred dogs, see Gourevitch 1968, 275; *LS* 21 A, line 9, regulation from Piraeus of cult of Asklepios and associated deities, 4th century BC.



Fig. 10 (left). Athenian red-figure lekythos, Athens, National Archaeological Museum 1695, ca 440–430 BC. Photo: National Archaeological Museum, Athens, © Hellenic Ministry of Culture and Tourism/Archaeological Receipts Fund.



Fig. 11 (below). Boeotian red-figure skyphos, Athens, National Archaeological Museum 12591, Painter of the Dancing Pan, ca 420 BC. Photo: National Archaeological Museum, Athens, © Hellenic Ministry of Culture and Tourism/Archaeological Receipts Fund.



Fig. 12. Athenian red-figure lekythos, Rome, Academia dei Lincei 2478, 470–460 BC. Photo: Academia dei Lincei, Rome.

evidence can refine our somewhat crude conception of the role of dogs within the Greek religious and alimentary systems.⁵⁹

⁵⁹ Two other groups of animals often given very scant treatment are birds and fish, since they are hardly ever mentioned in the texts or inscriptions or depicted on vases or reliefs, and rarely recovered in the zooarchaeological evidence unless meticulous excavation methods are observed. For a striking exception, see the 2nd century BC deposit recovered in the sanctuary of Poseidon at Kalaureia, Poros containing 18 different species of fish: Mylona 2008, 92–96.

Practicalities and perspectives

The animal bones show us a reality, which is both richer and more complex than that suggested by the other sources. The increasingly sophisticated archaeological excavation methods, sieving, flotation and examination of the zooarchaeological material by highly skilled specialists, reveal new aspects of Greek religion. The animal remains may disclose or explain a range of practical considerations to us. Let us consider the issue of fire and burning, a central component of Greek sacrifice. How did one accomplish a holocaust, that is, a complete annihilation of the animal victim by fire? Were the animals killed and then put whole onto the pyre, or were they first bled and then flayed and opened up and emptied of intestines? Were they sectioned and then burnt? Practical experiments with the burning of animals in order to understand human cremation practices have revealed interesting results concerning the complexity of the accomplishment of such actions.⁶⁰

And what about the thighbones burnt for the gods, the *meroi* so frequently mentioned in Homer? Did they consist only of white, clean bones, as in Hesiod, or could they also be entire hind legs, with meat and all, as recently suggested by Guy Berthiaume?⁶¹ Can the animal bones reveal if they were put into the fire with the meat still attached to them or if they had first been freed of meat? Is it possible to distinguish if a bone was covered with meat or wrapped in fat before burning?⁶² In this area of enquiry also, some experimentation would be very valuable.⁶³

There are also a number of methodological issues. How burnt do the bones have to be for them to be interpreted as a *thysia*? Is the degree of burning the most essential feature for the identification of such a ritual or is the selection of body parts to be considered the important criterion? How do we identify other kinds of sacrificial rituals among the burnt bones, such as the partial burning of the victim, so-called

moirocausts? To what extent may deposits of unburnt bones be taken as evidence for actual sacrifices and not just consumption debris? How are we to characterize the throwing of bones into the fire after the meat had been eaten, simply as a way to dispose of the detritus or a ritual treatment of these bones?

The bones also open up perspectives for comparisons where our other sources leave us more or less in the dark. Where does this Greek obsession with burning animal bones for the gods come from? The closest parallels to Greek sacrificial practices in the written evidence are the Israelite rituals outlined in Leviticus in the *Old Testament*, but here there is no mention of treating the bones in the same manner as the Greeks did, although tails were burnt.⁶⁴ A Hittite text mentions an unusual ritual where the cut-off forelegs of a sheep were freed of meat and wrapped in fat, though there seems to be no burning involved.⁶⁵ To what extent the Greeks were influenced by such ritual practices of their neighbours, close by or more distant, is an open question. The relation between Mycenaean sacrificial rituals and later Iron Age practices is also of primary interest, as recently published zooarchaeological evidence from Pylos and Methana has shown that burnt animal sacrifice was practised in the Late Bronze Age, though not in the same way as in later periods.⁶⁶

These are only some of the issues that need to be considered, and if not treated here, they will hopefully be the topic of discussion elsewhere in the future. What I have outlined above is very closely linked to my own perspective and interests when working on Greek sacrificial ritual, but this is of course far from the only one. Therefore the question also should be turned around: what is the sacrificial wish list of the zooarchaeologists? What is important empirically, methodologically and practically? Are the questions raised by the scholars working on texts, inscriptions, images and archaeological remains the right ones to pose? After all, different kinds of evidence speak of different kinds of realities.

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⁶⁰ Sigvallius 1994, 15–32. Only one holocaust is zooarchaeologically demonstrated so far, at the Palaimonion at Isthmia, dating from the Roman period, see Gebhard & Reese 2005, 126, 132–133, 137–139 and 152.

⁶¹ Berthiaume 2005.

⁶² On the conflicting responses to these questions, van Straten 1995, 131 with n. 50.

⁶³ Recent experiments have demonstrated that fresh bones stripped of meat in fact burn better than dry ones, contrary to what is often assumed by scholars, see Théry-Parisot *et al.* 2005, 51–57. This result is of great interest for the understanding of the importance of thighbones in Greek sacrificial ritual.

⁶⁴ Leviticus 3:9, 7:3–4, 8:25, 9:18–20, cf. Exodus 29:22; see also Hultgård 1987; Milgrom 1991, 205–213; Ekroth 2009, 146–149; Scullion 2009.

⁶⁵ Haas 1994, 657. I am grateful for Alice Mouton for further clarifying this passage to me.

⁶⁶ On the evidence for bones being burnt as part of sacrificial rituals in the Late Bronze Age, see Isaakidou *et al.* 2002, 86–92; Halstead & Isaakidou 2004, 136–54; Hamilakis & Konsolaki 2004.

Abbreviations

- LS* F. Sokolowski, *Lois sacrées des cités grecques* (École française d'Athènes. Travaux et mémoires, 18), Paris 1969.
- LSA* F. Sokolowski, *Lois sacrées de l'Asie Mineure* (École française d'Athènes. Travaux et mémoires, 9), Paris 1955.
- NGSL* E. Lupu, *Greek sacred law. A collection of new documents* (Religions of the Graeco-Roman world, 152), Leiden 2005.
- ThesCRA* *Thesaurus cultus et rituum antiquorum* I–V, Los Angeles 2004–2005.

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L'assemblage osseux comme un dernier état de la présence animale en contexte archéologique

Gestuelle et comportements vis-à-vis de l'animal

Abstract

Faunal assemblages from different archaeological contexts are presented here as examples of different methods of zooarchaeological interpretation. The aim of this contribution is to discuss the interpretation of bone assemblages according to the context and what is to be considered as relevant against the background of all species/anatomical elements present in the faunal record, in relation to religious practices or not. Emphasis will be given to specific bone assemblages from protohistorical contexts in southern France and their interpretation. The main purpose of the methodology of the zooarchaeological analyses is to give comprehensive information about human behaviour in ritual or non-ritual procedures.

Résumé

Cette contribution est consacrée à la nature de l'assemblage archéozoologique et aux diverses façons de l'appréhender dans un contexte archéologique défini. Le cas des contextes religieux ou culturels est intéressant du point de vue de leur organisation et de la variété des différents mobiliers archéologiques qui le composent : l'idée au départ réside peut-être trop souvent dans la volonté de trouver et de définir une spécificité de ces assemblages susceptibles de justifier et de confirmer l'interprétation globale, en termes de contexte culturel, ou religieux. Pourtant, si le mobilier est le reflet d'un comportement, quelle que soit la nature ou les motivations qui génèrent ce comportement, sa position archéologique, stratigraphique, et ses caractéristiques taphonomiques soulignent en se combinant les différentes étapes qui ont présidé à la mise en place des dépôts : de ce fait, est-il toujours possible ou raisonnable de considérer un assemblage faunique en contexte religieux comme le strict reflet d'un seul événement lié à une organisation ni domestique ni funéraire ? Quelques exemples archéozoologiques seront décrits afin de soulever une discussion sur la nature et les limites de l'interprétation d'un assemblage osseux d'origine animale en contexte religieux.

L'assemblage faunique : un mobilier archéologique comme un autre ?

L'étude des restes fauniques en contexte archéologique ouvre tout un champ de recherche autour de la présence et du rôle tenu par les animaux dans les sociétés antiques. Toutefois, il

paraît indispensable, avant d'engager toute interprétation, de s'interroger sur la valeur de ces assemblages en termes de comportements alimentaires (production et élaboration de produits d'origine animale) ou non alimentaires (place des animaux dans des registres de type rituel, symbolique ou accidentel).

Cette contribution se propose de souligner les différentes questions qui peuvent émerger au cours de l'étude d'assemblages osseux animaux issus de divers contextes archéologiques (*Fig. 1*).¹ La première étape de l'analyse archéozoologique consiste à cerner la validité de l'assemblage étudié en fonction de son contexte archéologique, de sa nature, de son état, de son caractère homogène ou non, des techniques de fouilles mises en œuvre, etc., afin d'engager une réflexion sur sa signification et son interprétation en terme alimentaire ou non. À cette fin, l'étude taphonomique représente une étape préliminaire indispensable à l'analyse archéozoologique.

L'assemblage faunique, considéré à part entière comme un mobilier archéologique, est par conséquent étroitement lié au contexte dont il provient et ce contexte induit un certain état de l'assemblage. L'étude archéozoologique se propose, dans une première analyse, de mettre en évidence les animaux présents, l'environnement dans lequel ces derniers ont évolué, puis en seconde analyse, de proposer par extrapolation une évaluation de la nature des populations animales reconnues. Au-delà de l'étude strictement zoologique, il est primordial de s'interroger sur la portée des estimations dans le but de dé-

¹ Nos remerciements les plus chaleureux vont aux collègues archéologues responsables des fouilles qui sont citées en exemple dans le texte et qui nous ont confié leurs assemblages fauniques pour étude : Valérie Bel (INRAP Méditerranée), Philippe Brunner (archéologue), Claire-Anne de Chazelle (CNRS), Henri Duday (CNRS), Éric Gailledrat (CNRS), Joan Lopez (Université de Lleida, Catalogne), Penelopi Malama (Ephorie des antiquités préhistoriques et classiques, Kavala), Michel Py (CNRS), Réjane Roure (Université Montpellier 3), Jean-Claude Roux (SRA, Languedoc-Roussillon), Martine Schwaller (SRA, Languedoc-Roussillon).



Fig. 1. Carte de la France méridionale et localisation des sites archéologiques mentionnés.

terminer l'origine de l'assemblage, sa signification, et afin de statuer sur la faisabilité ou non de l'étude en fonction de problématiques posées en amont, au niveau archéo-historique.

Le mobilier faunique permet d'appréhender les comportements qui ont présidé à sa mise en place dans le sédiment : comportements de subsistance et de consommation, comportements économiques régulés par des choix ou des contraintes, comportements humains vis-à-vis de l'animal dans ses deux états (vivant puis mort), comportements techniques (zootechnie, pratiques d'élevage, pratiques bouchères) et enfin comportements religieux.

L'assemblage osseux en contexte rituel ou symbolique permet de procéder à un certain nombre d'observations qui relèvent des méthodes classiques de l'archéozoologie : spectres fauniques, courbes de mortalité, répartitions anatomiques, rapports entre nombres de restes déterminés (NRD) et nombres minimum d'individus (NMI), tandis que les observations des surfaces osseuses mettent en évidence des techniques bouchères, la gestion des déchets culinaires, des remaniements potentiels des dépôts, ainsi que des phénomènes de dispersion post-dépositionnelle en introduisant la notion de dépôt « primaire » ou « secondaire » ; cette dernière observation peut fortement orienter l'interprétation finale du mobilier en terme de gestes ou de comportements.

C'est à cette idée de comportement que nous nous référons en permanence dans la mesure où ces derniers sont liés à des choix et des contraintes générés, gérés et subis par une société déterminée localisée dans le temps et dans l'espace. Les motivations à l'origine de ces comportements peuvent être économiques, culturels, symboliques, affectifs, ou religieux ... quant aux contraintes éventuelles, elles sont potentiellement environnementales, climatiques, économiques, culturelles ou religieuses.

Il convient, en préalable à toute étude, de poser et si possible de répondre à quelques questions qui vont conditionner l'interprétation finale :

- Quel est le lien entre la succession des événements observés et le dernier état de la carcasse de l'animal ?
- Peut-on établir une succession de plusieurs états à partir de l'assemblage osseux ?
- Dans quelle mesure le contexte archéologique induit-il (voire même peut-il parasiter ?) une première interprétation de l'assemblage osseux ou de tout autre assemblage archéologique ?

Fig. 2. Un assemblage faunique, tel qu'il arrive sur la table de l'archéozoologue.



- Un lieu dit « de culte » ne peut-il être que le théâtre d'activités culturelles, régulées, normalisées ?
- Dans quelle mesure le contexte archéologique induit-il une interprétation préconçue ?
- Ne faut-il pas envisager la possibilité de comportements à caractère domestique au sein des ensembles religieux (des comportements alimentaires et de rejets de déchets de consommation par exemple) ?
- Dans cet ordre d'idée, quelles sont les différences archéozoologiques entre un repas ordinaire et un banquet rituel, si ce n'est dans le traitement de l'animal et la préparation des viandes, voire dans le traitement des déchets, seuls comportements que l'archéozoologie permettra d'identifier, le registre religieux ou symbolique échappant totalement au mobilier archéologique seul ?
- Enfin quelle est la part de sacré dans certaines activités observées en contexte domestique et où l'animal joue un rôle certain ?

L'assemblage osseux représente le dernier état de l'animal (Fig. 2) ; de ce fait, son interprétation varie en fonction du caractère primaire ou secondaire de sa mise en place dans le sédiment.

En premier lieu, l'assemblage, on l'a dit, est étroitement lié au contexte archéologique. Ce dernier induit tout d'abord un premier constat de la présence animale. On acquiert ainsi

le premier niveau de la documentation qui consiste à identifier les espèces présentes en fonction de leur environnement. La seconde étape permet, grâce aux méthodes de quantification, de définir la nature des populations animales correspondantes : nombre d'individus, répartition entre mâles et femelles, classes d'âge représentées. Cette approche doit cependant être nuancée par des interrogations sur la portée de ces estimations, et surtout doit être complétée par un contrôle de la signification des assemblages archéologiques. Ce dernier point, abordé par l'analyse taphonomique, permet de tester la faisabilité de l'étude archéozoologique, toutes les précautions devant être prises avant de procéder aux interprétations de l'assemblage en termes de comportements. Ces derniers peuvent être visibles à différentes échelles depuis la mise en évidence d'un événement ponctuel (acte de consommation, dépôt spécifique, objet) jusqu'à une signification plus générale (techniques d'élevage, productions animales, échanges, commerce, importation, exportation), et nous entraînent vers des conclusions *intra* ou *extra* site, au même titre que n'importe quel autre mobilier archéologique.

En résumé, la signification de l'assemblage est étroitement liée au contexte archéologique. Celui-ci implique un état ou bien un constat (spectre, populations animales, environnement) qui résultent de comportements : de subsistance (consommation), économiques, techniques et bien entendu rituel ou religieux. Les gestes, les comportements, les événements à déterminer, et par conséquent les contextes de déposition des objets au sens large induisent la nature de l'assemblage.

Ainsi, l'animal intervient à de multiples niveaux : social, commercial, culturel, symbolique, technique, et le travail de l'archéozoologie est de décrire, d'identifier et parfois de définir la nature des restes, les comportements et les fonctionnements en relation avec le contexte archéologique en ayant comme objectif la mise en évidence de continuum ou de rupture, grâce à la reconnaissance de pratiques continues ou ponctuelles, mais toujours localisées dans le temps et dans l'espace.

Ces certitudes ne doivent cependant pas nous empêcher de nous interroger continuellement sur les sens à donner aux assemblages et sur les écueils à éviter afin de ne pas tomber dans des interprétations simplistes fondées sur des modèles plus ou moins pertinents, et en tout état de cause, jamais universels.

L'animal dans des pratiques non strictement alimentaires

La participation de l'animal au sein de pratiques non exclusivement alimentaires se repère dans les trois principales composantes de l'environnement anthropique : l'espace domestique (habitats), l'espace funéraire (tombes et nécropoles), et l'espace religieux (partout). Les assemblages fauniques se caractérisent alors par leur nature, leur localisation, leur état de conservation, et souvent par des processus visibles de mise en place des dépôts qui se traduisent par des éléments complets isolés (comme des squelettes ou des crânes), des éléments en connexion anatomique, un spectre faunique réduit, un rapport NRD/NMI élevé et un taux de fragmentation faible voire nul, des altérations osseuses spécifiques.² Outre les méthodes traditionnelles de l'archéozoologie qui sont engagées lors de l'analyse, on doit procéder à la fouille de ces assemblages en suivant un protocole précis où les ossements sont individualisés, repérés *in situ*. Ces techniques de prélèvements sont destinées à mettre en évidence des gestes dont la position des ossements rend compte (position primaire), à l'inverse des dépôts de remblais ou fosses dépotoirs dans lesquels les assemblages sont en position secondaire. Bien que complexes et longs à engager sur le terrain, ces protocoles de fouille sont destinés à multiplier les observations afin d'atteindre une meilleure compréhension des ensembles osseux et de leur signification. Les gestes qui ont présidé à la réalisation de ces dépôts prennent en effet une valeur qui ne

relève plus seulement de la technique mais engage une conceptualisation symbolique du comportement non alimentaire vis-à-vis de l'animal.

Le banquet : un événement consommatoire

Le contexte le plus fréquent, à l'échelle d'un site archéologique, est celui des résidus de consommation retrouvés au cours de la fouille sous la forme d'assemblages osseux. Très souvent, les étapes de la préparation et de la « cuisine » nous échappent. En revanche, ces différentes étapes sont indirectement accessibles à travers certains processus, domestiques ou funéraires, autrement dit lors d'un événement ponctuel, figé par le contexte, correspondant à des comportements spécifiques différents de celui des rejets de déchets de table quotidiens.

Prenons à titre d'exemple le dépôt DP50004 découvert dans la ville antique de Lattara située dans le sud de la France, près de Montpellier.³ Cet assemblage représente un épisode ponctuel de décharge de restes de bovins découpés, préparés, consommés, puis rejetés le long d'un mur, mêlés à des galets, des fragments de céramiques, d'autres restes fauniques, ainsi qu'à deux broches à rôtir.⁴ Deux bovidés ont été identifiés : un premier bœuf âgé entre 2,5 et 4 ans, et un deuxième âgé entre 4 et 8 ans. Ce dépôt a été assimilé à un dépôt de type dit « spécifique »,⁵ ce qui implique l'observation de connexions anatomiques ou d'appariements entre les différents segments osseux, ainsi que des marques de mise en pièce bouchères qui les ont isolés du reste de la carcasse (Fig. 3). Dans le cas du DP50004, il est intéressant de souligner la bonne conservation des ossements (entiers ou sub-entiers) ainsi que la forte proportion de restes porteurs de marques de découpe : 28,6% des ossements contre 5 à 6% en moyenne sur l'ensemble de la ville pour les ensembles identifiés strictement comme des déchets culinaires. Cet assemblage a permis d'aborder de manière documentée la phase précédant la consommation, au sein de la chaîne qui va de l'acquisition de l'animal (élevage, échange, commerce) à la distribution de ses produits. Son originalité par rapport à des lots osseux sus-jacents a été démontrée grâce à l'étude archéozoologique, mettant ainsi en évidence une étape que les contextes archéologiques nous offrent rarement l'occasion d'observer.

La première remarque qui s'est imposée lors de la mise au jour de cet assemblage fut la régularité avec laquelle les ossements et portions de carcasses avaient été alignés le long du mur. Ceci dénote une certaine organisation dans le rejet de ces déchets. Les os ont généralement été déposés à plat, sur un niveau de circulation horizontal. L'homogénéité des dé-

² Il s'agit d'un rapport qui matérialise la représentation squelettique moyenne par animal. Plus le nombre de restes déterminés par individu est important, plus l'assemblage est homogène et signale une faible dispersion des squelettes.

³ Py 2009.

⁴ Gardeisen 1999a.

⁵ Gardeisen 2002.



Fig. 3. Le dépôt DP50004 (Lattes, Hérault, France) in situ : on devine l'alignement contre un mur, les os complets ainsi que les portions encore en connexion anatomique et la broche à rôtir.

pôts osseux mêlée à celle d'autres mobiliers (broches à rôtir par exemple), indique une décharge unique recouverte rapidement par un remblai. Seul un fragment osseux porte des traces de mâchonnage par un chien, ce qui revient à environ un taux de 1,2% de restes rognés. En revanche, le pourcentage d'os porteurs de marques de rognage passe à 11,5% dans les couches de remblais sous- et sus-jacents ... cela confirme, avec l'organisation des dépôts et la conservation des ossements dont le volume initial a été préservé, la mise en place et le recouvrement rapide de la structure dans son ensemble. On a dans un premier temps parlé de « dépôt de boucherie », car il s'agissait de désigner un assemblage provenant d'activités spécialisées résultant d'un fait ponctuel caractérisé par un assemblage original dans le sens où le contexte archéologique et la nature des vestiges diffèrent des assemblages ordinaires en contexte domestique (déchets de consommation épars et fragmentés incluant de nombreuses pièces squelettiques et souvent plusieurs espèces animales).

La consommation de viande, en tant que composante fondamentale de l'approvisionnement et de l'économie vivrière, nous est régulièrement accessible par l'étude des assemblages osseux rejetés dans l'habitat et retrouvés dans les remblais, les dépotoirs, et dans les sols d'occupation ou d'abandon. En contexte domestique, on ne retrouve guère que les résidus de la consommation directe, et quotidienne : les premières étapes du traitement boucher (abattage, écar-

rissage, débitage primaire) nous échappent, soit parce qu'elles se situent en dehors des sites, soit parce qu'elles sont masquées par le système de distribution, puis de consommation et de rejets (fragmentation accrue des ossements et perte d'informations). L'événement à l'origine du dépôt DP50004 de la ville antique de Lattara signale un fait ponctuel, au cours duquel des animaux, deux bovins en particulier, ont été mis en pièce, en partie décharnés, puis probablement cuisinés, et enfin consommés et cela dans un cadre domestique, mais de façon extraordinaire. L'organisation du dépôt se situant à l'interface de deux états successifs d'un îlot d'habitation, le fait de consommer ponctuellement ces pièces de viandes puis de les évacuer directement dans une structure immédiatement recouverte ne relève plus du repas ordinaire, mais d'un acte à caractère original, le seul d'ailleurs observé à ce jour sur le site. Sans préjuger du caractère social, politique ou religieux de cette manifestation, on se trouve face à un contexte archéologique tel que ceux définis par le terme de banquet, bien que ce terme n'ait jamais été réellement défini du point de vue de l'assemblage faunique.

Dépôt d'offrande animale associé à une inhumation humaine dans une maison

L'exemple que nous prendrons ici est celui du dépôt DP75059 daté du IV^e siècle avant notre ère et fouillé en 2005 sur le site

de Pech Maho près de Sigean (Aude, France). Il s'agit en réalité d'une sépulture d'enfant mort en période périnatale à laquelle étaient mêlés les ossements d'un jeune cabri.⁶ La fouille minutieuse complétée par un relevé progressif des objets (os, petits cailloux, coquilles diverses) a permis d'effectuer des observations pertinentes en termes de comportement et de gestes ayant présidé à la mise en place des ossements animaux et humains. Quelques connexions partielles étaient apparentes dès le début de la fouille⁷ mais il est très vite apparu que les os longs désolidarisés avaient été déposés individuellement selon un effet dit « fagot », c'est-à-dire plus ou moins enchevêtrés les uns dans les autres comme s'ils avaient été posés en brassées (Fig. 4). Les ossements, malgré des degrés divers de fragmentation, étaient bien conservés, compte tenu de l'immaturité de ce chevreau âgé d'environ 6 mois. Les épiphyses articulaires non synostosées ont été retrouvées en place, sur les diaphyses d'os longs correspondants. Il n'a pas été observé d'indices de perturbations ou de remaniements post-dépositionnels, mais en revanche une mise en place progressive des ossements en fonction de leur origine squelettique. En partant du fond de la fosse, on constate que le crâne a été déposé en premier, entouré de côtes et des extrémités des pattes en connexion, à la suite de quoi ont été progressivement placés

les os longs des membres antérieurs et postérieurs, et enfin les vertèbres. Ces dernières, du fait de l'âge de l'animal, étaient fragmentées et éparpillées mais des remontages ont permis de constater que tout le rachis était présent. Le squelette humain identifié à un stade périnatal était déposé par-dessus. L'analyse des ossements en laboratoire a montré que l'animal, entier, avait été préalablement mis en pièce par découpe après éviscération, et probablement sans avoir été consommé. C'est ici toute la question de l'offrande animale, au sens où on a l'habitude de la nommer, et de son association avec un autre squelette (ici un bébé nouveau-né). En effet, la détermination précise de l'animal permet de décrire le phénomène, sans pour autant lui trouver une interprétation pertinente en l'absence de données littéraires : un petit cabri non destiné à la consommation a été sacrifié à l'occasion de l'inhumation d'un enfant mort en bas âge. Sa carcasse a été éviscérée puis dépecée. La tête a été coupée au niveau de la deuxième vertèbre cervicale (Fig. 5), le rachis a été tronçonné et décharné, les membres découpés de manière à isoler chaque segment. Le squelette complet a été déposé portion par portion au fond d'une fosse et le nourrisson a été placé par-dessus. L'ordre de mise en place ne semble pas aléatoire, bien au contraire, puisque la succession des gestes identifiés suppose une organi-



Fig. 4. Fouille du dépôt DP75059 (Pech Maho, Aude, France). Les différents ossements du jeune cabri apparaissent progressivement au fur et à mesure des décapages, et on devine l'effet « fagot » dû à un processus de mise en place os par os.

⁶ Duda 2007. Autre nom qui désigne, comme le chevreau, une jeune chèvre (*Capra hircus*)

⁷ Articulation du tibio-tarse par exemple.

Fig. 5. Détail de l'axis du jeune cabri identifié dans l'assemblage faunique du dépôt DP75059 à Pech Maho (Aude, France) : on distingue nettement les deux impacts de découpe liés à la séparation tête-corps au niveau de la deuxième vertèbre cervicale (ici en vue ventrale).



sation, en relation peut-être avec la découpe progressive de la carcasse : en premier lieu le crâne et les côtes désolidarisées et mêlées, puis les portions de membres par os, déposés en fagot, et enfin les vertèbres. Le critère de choix de l'animal, de son âge, est-il culturel ? Relève-t-il uniquement de la disponibilité à un moment donné d'un chevreau ? En l'absence d'autres témoins archéologiques, peut-on parler de « rituel », dans la mesure où ces procédés ne semblent reproduits nulle part ailleurs ? Faut-il en fin de compte « classer » cet événement dans une pratique rituelle, à caractère religieux, ou bien dans une pratique à domestique à caractère funéraire ?

Dépôts animaux isolés en contexte domestique

Le deuxième exemple de dépôt animal provient du site de Montlaurès, près de Narbonne en France méridionale.⁸ Trois dépôts en fosses contenant chacun un squelette complet d'ovin (*Ovis aries*) ont été fouillés dans un secteur appartenant à un contexte domestique de la seconde moitié du IV^e siècle av. n. è.⁹ Les têtes étaient complètes et en connexion avec les mandibules déposées sur le dessus, ainsi que les extrémités des pattes (à partir des articulations carpiennes et tarsiennes) et les grils costaux. Les os longs étaient déposés os par os, en « fagot », et le rachis vertébral désolidarisé. Les trois individus ont été identifiés de la manière suivante : deux femelles de 24 et 48 mois environ (SQ286 et SQ288), et un jeune adulte (SQ289) entre 9 et 20 mois (Fig. 6). Dans les trois cas, les marques de découpe témoignent d'un dépeçage poussé des carcasses, visant à isoler les éléments par organe (chaque segment des membres est individualisé) ou en portions (tête, bas de pattes, plats de côtes). On observe donc à Montlaurès une forte analogie avec le dépôt précédemment décrit à Pech Maho : zone géographique (Aude, France), synchronie (IV^e s. av. n. è.), animal (*Ovis*, *Capra*), squelettes complets, mise en pièce poussée des carcasses, déposition en fosse selon une organisation spécifique en relation probable



Fig. 6. Vue de la fouille de l'un des dépôts (SQ289) correspondant à une brebis mise en pièce et désossée dans une fosse aménagée à l'intérieur d'une cour : site de Montlaurès (Aude, France). On aperçoit les grils costaux en place et les extrémités de membres en connexion anatomique.

avec l'intensité du dépeçage. Les différences résident essentiellement dans l'absence d'inhumation humaine, dans l'âge et la maturité des animaux « sacrifiés », dans la présence de grils costaux en connexion et dans l'intégration de ces dépôts à l'espace domestique : au milieu d'une pièce pour l'une des brebis, et encastrées dans une banquette en terre crue pour les deux autres avec un décalage entre crâne et squelette appendiculaire couplée à une association particulière entre tête et bas de pattes en connexion.

Si l'événement précédent était motivé par l'inhumation d'un bébé, seuls les réaménagements de l'espace de Montlaurès ont été mis en relation avec ces dépôts.¹⁰ Un fait avéré par ailleurs au cours de l'âge du Fer en Méditerranée occidentale d'ailleurs (cf. aussi l'exemple du banquet au IV^e siècle avant notre ère), comme on aura l'occasion de le rappeler à plusieurs reprises : il semble que les opérations de remblaiement et de réorganisation des espaces domestiques soient souvent accompagnées par des dépôts animaux, composés de squelettes complets ou d'éléments isolés (des crânes par exemple). Ces dépôts à caractère rituel, bien que différents dans leur nature, sont en relation avec les mêmes faits avérés archéologiquement et en l'absence de documentation complémentaire, sont souvent qualifiés de propitiatoires.¹¹

⁸ Chazelles *et al.* 2001.

⁹ Gardeisen 2001.

¹⁰ Il n'y a aucun autre mobilier associé à ces squelettes.

¹¹ Fabre & Gardeisen 1999.

Assemblages originaux en contexte urbain et monumental

Quatre assemblages osseux exhumés au cours des fouilles de Pech Maho dans l'Aude,¹² sont quasi exclusivement composés d'ossements et de crânes d'équidés (Fig. 7). Les autres restes fauniques inclus aux sédiments ne relèvent pas du même processus d'accumulation et proviennent de la terre ayant servi au remblaiement des espaces à la suite de l'épandage des carcasses de chevaux. Cette interprétation repose sur la nature des différents lots osseux qui présentent les caractéristiques classiques des déchets culinaires. La diversité des spectres, les représentations anatomiques, la dispersion des carcasses, l'absence de connexions ou d'appariements, les traces diverses (naturelles ou anthropiques) ainsi que le modèle de fragmentation osseuse soutiennent cette conclusion : l'étude taphonomique établit cette distinction, permettant ainsi d'éviter un amalgame hasardeux entre plusieurs assemblages d'origines différentes.¹³

Trente-deux équidés ont été abattus, dépouillés, débités, mis en pièce, puis décharnés, et une partie des viandes probablement consommées, comme le soutiennent la présence de broches à rôtir et de traces de foyers. Les têtes ont été isolées du reste du corps et dans certains cas, les mandibules désarticulées ; elles ont souvent été retrouvées intactes. Les extrémités des membres ont été découpées lors de ce débitage primaire, puis évacuées dans un autre lieu, car elles sont presque absentes. Quelques portions de queues, sous la forme de vertèbres caudales découpées ou brûlées, ont été appariées en laboratoire. Les carcasses ont été débitées violemment au niveau des bassins, puis les membres désarticulés. Certains os longs, porteurs de masses musculaires importantes comme les fémurs ont été décharnés. Quelques éléments de harnachements étaient ponctuellement associés aux dépôts ainsi que des armes. Ces événements ne sont pas produits au hasard car ils s'inscrivent dans un contexte archéologique particulier qui n'est pas (ou plus) celui d'un habitat.

Enfin, diverses observations archéologiques et taphonomiques soulignent le caractère secondaire de ces dépôts en partie remaniés par des réaménagements de l'espace à la



Fig. 7. Dépôt ou épandage d'ossements d'équidés sur le site de Pech Maho (Aude, France) : on remarque l'absence de connexions, l'éparpillement des restes, ainsi que l'excellente conservation des côtes.

suite de l'abandon du site. Les carcasses ont alors été disloquées et dispersées au sol puis recouvertes de sédiment, et de ce fait, protégées. La fragmentation post-dépositionnelle s'en est trouvée réduite, ce qui a favorisé la conservation *in situ* des crânes et des os longs ainsi que de certaines connexions anatomiques d'extrémités de membres rejetés sur place. Un nettoyage probable, dans certains cas réalisé par le feu, est attesté par des marques de brûlures sur les ossements. Lorsqu'elle s'est produite, la fragmentation est traduite par de nombreux recollages, en particulier des côtes, os réputé sensible à des phénomènes de tassements ou de piétinements à la suite de leur enfouissement.¹⁴ Toutes ces observations nous ont amenés à considérer l'assemblage archéozoologique comme étant proche de l'assemblage osseux initialement déposé. Compte tenu des déficits squelettiques, il faut envisager une distribution de la viande avec les os ou un traitement différent de certaines portions évacuées ailleurs (segments des membres ou du rachis).

Il est impossible d'établir une exacte contemporanéité entre les différents dépôts d'équidés, mais force est de constater que d'un point de vue squelettique, on constate une certaine complémentarité de l'un à l'autre ; cette remarque est en grande partie supportée par l'analogie entre les âges estimés et les représentations anatomiques. Ces populations équinées identifiées sont relativement homogènes. À ce jour, 32 équidés

¹² Gailledrat *et al.* 2007.

¹³ Gailledrat & Gardeisen 2010.

¹⁴ Ce qui indique qu'il n'y a pas eu de perturbation dans la couche archéologique à la suite de la fragmentation des os *in situ*.

dés ont été individualisés, mâles et femelles mélangés. La majorité sont des jeunes adultes dans la force de l'âge, entre 5 et 8 ans. Les assemblages osseux correspondants constituent un référentiel archéozoologique unique dans le sud de la Gaule et leur étude préliminaire indique qu'il s'agit de chevaux grâces de type poney. En résumé, on constate, sur une période de temps assez brève, que plus d'une trentaine de chevaux et deux ânes au moins ont été abattus, soit au cours d'un épisode guerrier, soit à la suite de celui-ci. En effet, cet épisode est connu historiquement et situé aux alentours de 200 avant notre ère à Pech Maho.¹⁵ Plusieurs scénarios sont à ce jour envisagés sans que la réalité des faits n'ait été encore découverte. Néanmoins, du point de vue de l'assemblage faunique, il est possible de signaler les restes de carcasses de chevaux abattus (80% des individus ayant entre 5 et 8 ans, leur mort n'est certainement pas naturelle), puis leurs carcasses découpées, certaines parties riches en viande décharnées, puis les restes osseux rejetés et abandonnés. La plupart des os sont en excellent état de conservation et sont mêlés à des accumulations de pierres et de nombreux objets liés à la guerre (armes, harnachement) comme à la consommation (broches), ainsi que des structures et des traces de combustion. Une fois « exploités », les cadavres abandonnés ont été éparpillés lors d'un nivellement des sols destiné à assainir les lieux, fait corroboré par des ossements partiellement brûlés qui indiquent un nettoyage préalable par le feu. Si l'hypothèse d'une bataille est retenue, la mort accidentelle au cours des combats tout comme le sacrifice des chevaux des vaincus sont l'un et l'autre envisageable. Les témoins de la consommation des viandes soulèvent ici la question d'un acte de consommation tout à fait extraordinaire que seule la victoire ou la disette pourrait expliquer. En tout état de cause, ce que l'assemblage archéozoologique décrit, sans que l'on puisse entrer dans les détails des actions, c'est un abattage massif ou la mort accidentelle (au cours de la bataille) de chevaux dans la force de l'âge, et donc susceptibles d'appartenir à une armée. Cet épisode est suivi par la découpe parfois violente, réalisée à l'aide d'arme ou de grand couteau lourd, ce qui n'est pas en accord avec les techniques de boucherie connues. Certaines portions de viandes ont été retirées, les os ainsi décharnés, à des fins probables de consommation ; d'autres portions squelettiques ont été évacuées dans un autre lieu (bas des pattes). Les carcasses restantes ont été étalées, en partie brûlées, puis recouvertes de terres afin d'aplanir la zone et de réaménager l'espace après sa destruction. On observe ici un fait de consommation exceptionnelle de viande de chevaux, réalisée dans un contexte particulier qui peut évoquer un banquet : espèces réduites, portions de viande bien identifiées, recouvrement rapide,

os conservés entiers, marques de découpe significatives, importance du décharnement. Toutefois, rien ne nous indique que la consommation a été effectuée sur place, et de manière plus prosaïque, on pourrait tout aussi bien supposer que des populations affamées par les combats ont profité de viande fraîche sous la forme de chevaux morts abandonnés par des guerriers en fuite. L'assemblage faunique soulève en parallèle la question de l'hippophagie, encore pratiquée dans le sud de la Gaule à l'âge du Fer, mais de façon très ponctuelle. L'information comportementale est étonnante, d'autant plus si l'on situe l'événement au cours d'un fait historique avéré et qu'on le rapproche de pratiques connues de cultes de héros, compte tenu de l'aspect monumental de quelques installations proches.¹⁶ Des événements divers et variés peuvent ainsi se succéder dans un même lieu et il est important de tenter d'en traduire les gestes, à défaut des circonstances exactes ou des motivations profondes. L'analyse archéozoologique propose ici une lecture essentielle à partir de mobiliers fauniques de nature tout à fait exceptionnelle ; mais une fois de plus, rien ne nous engage précisément sur une interprétation de comportements religieux, rituels ou opportunistes. Seule certitude : en milieu *a priori* d'habitat, à l'entrée d'une ville fortifiée, les assemblages de chevaux de Pech Maho ne répondent en rien au type d'assemblage que l'on pouvait théoriquement attendre, et qui a été par ailleurs identifiés dans d'autres secteur de la ville.

Pratiques culturelles à caractère guerrier

La reconnaissance en 2003, lors de la fouille du secteur 3 du site du Cailar dans le département du Gard (France méridionale), d'un dépôt d'armes et de crânes humains datés du III^e siècle av. n. è. a conjointement provoqué la mise au jour d'ensembles fauniques associés à ce contexte dont le caractère exceptionnel a vite engagé une réflexion sur la nature de ces différents assemblages archéologiques (restes fauniques, restes humains, mobilier métallique). Du point de vue archéozoologique, la question de la récurrence des restes osseux dans les niveaux archéologiques pose la question de l'origine et des conditions de dépôt de ces assemblages : naturels, anthropiques, primaires, secondaires, etc.

Le spectre faunique du secteur 3 du site du Cailar comporte une forte proportion d'animaux domestiques : équins, bovins, ovins, caprins, porcins et chiens, auxquels s'ajoutent cerfs, sangliers, et tortues ainsi que de rares éléments attribuables à de la microfaune¹⁷ retrouvée grâce à un protocole de tamisage régulier.

¹⁵ Gailledrat & Gardeisen 2010.

¹⁶ Belarte *et al.* 2008.

¹⁷ Amphibien, petit rongeur, passereaux.

Pour ce qui est de l'état de fragmentation des os de mammifères, on notera la succession classique des événements qui va de l'exploitation initiale à vocation alimentaire des carcasses à des remaniements post-dépositionnels intenses ayant entraîné des cassures puis une forte dispersion des fragments osseux auxquels s'ajoutent le tassement dû au poids des terres et quelques marques d'intervention carnivores (coups de dents de petits carnassiers). Ces phénomènes ont pour conséquence un taux de détermination assez faible de l'ordre de 35% du nombre total de restes fauniques. À l'inverse, les conditions de conservation et d'enfouissement d'un autre secteur du gisement (zone 1) étaient beaucoup moins marquées, se traduisant par un taux de détermination de 65% avec un rapport NRD/NMI¹⁸ plus équilibré, rapports plus habituels des contextes protohistoriques régionaux.¹⁹

Dans le cas du dépôt de crânes humains et d'armes (secteur 3), les restes osseux d'origine animale sont intimement liés à l'ensemble des mobiliers à savoir aux fragments de crânes humains, aux armes, aux monnaies, tout autant qu'à la céramique (Fig. 8). Le caractère diachronique perçu à travers les datations fondées sur la céramique soulève la question du temps d'accumulation et des différentes phases de mise en place de ce dépôt. En cela, la faune ne peut guère apporter d'élément tangible, si ce n'est pour souligner le caractère hétérogène de la constitution de ces assemblages au vu des phénomènes de perturbations et de dispersion attestés. L'hétérogénéité des restes fauniques contraste avec l'homogénéité des autres mobiliers archéologiques. La fragmentation couplée à la dispersion des carcasses initiales oriente davantage vers la reconnaissance de dépôts dits secondaires qui auraient pu être provoqués par l'introduction de sédiments exogènes lors de phases de remblaiement du secteur.

Le caractère « guerrier » du dépôt avec ses trophées de têtes humaines découpées mêlées à de l'armement pose la question de la présence, voire du sacrifice, des cavaliers avec leurs montures à l'issue d'un combat. Rien cependant ne distingue l'assemblage des équidés de ceux des autres espèces domestiques consommées. La consommation du cheval étant une pratique attestée à l'âge du Fer, il est normal d'en retrouver des éléments fragmentés, découpés et dispersés en provenance de déchets culinaires. Si des chevaux ou des portions de chevaux (des têtes par exemple) avaient été associés au dépôt initial (crânes humains et trophées), l'assemblage osseux correspondant se distinguerait de celui des autres mammifères (conservation de portions particulières, état de fragmentation différent) : on aurait été confronté à un assemblage de type « spécifique » différent de celui des reliefs de repas habituels, ce qui n'est pas le cas.



Fig. 8. Vue de la fouille correspondant au dépôt de crânes et d'armes du Cailar (Gard, France). Les os sont fragmentés et disséminés au milieu des restes humains, des tessons de céramique, des pierres, et des petits galets.

Grâce aux répartitions spatiales des différents ossements et sans préjuger des interprétations finales, il est capital de soulever la question de l'origine exogène des assemblages fauniques dans le dépôt considéré de type « rituel », probablement par l'apport de sédiments puisés dans des remblais ou dépotoirs riches en ossements. Si c'est effectivement le cas, alors le rôle des animaux doit être estimé à sa juste valeur : il ne s'agit plus que de déchets de consommation, probablement contemporains, mais qui n'ont aucun lien avec l'exposition des crânes humains découpés ni avec la mise en place des armes ou des monnaies. En effet, les répartitions anatomiques ainsi que les traces de découpe associées aux courbes de mortalité observées pour chaque espèce animale indiquent nettement un assemblage osseux typique des lots archéozoologiques illustrés dans les habitats contemporains : il s'agit donc de déchets de consommation de type domestique.²⁰ Cela revient à exclure l'animal de cette pratique et souligne une fois de plus l'importance du contrôle taphonomique et archéozoologique dans l'interprétation d'un assemblage en contexte rituel ou religieux : tous les événements qui se produisent autour de l'espace rituel ne sont pas automatiquement à inclure dans les pratiques des cultes observés.

Vie et mort des animaux dans l'espace anthropique

La documentation relative aux animaux vivants dans l'enceinte des villes est de manière générale ténue : elle tient à des traces d'activités (litières, rognages) ou à des assemblages

¹⁸ Cf. note 2.

¹⁹ Py & Roure 2002 ; Gardeisen 1999b.

²⁰ Gardeisen, Cantuel & Creuzieux 2008.

osseux qui ont profité de contextes de conservation optimaux au sein desquels des lots spécifiques ont été reconnus (pelotes de réjection, animaux piégés). Dans le cas de Lattara, un programme de fouille systématique des puits a livré de nombreux restes fauniques, toutes familles animales confondues.²¹ Ainsi, trois puits ont bénéficié d'une analyse archéozoologique et nous ont offert une occasion rare d'identifier des squelettes complets ou quasi-complets appartenant à des individus morts sur place.²² Nous ne sommes pas encore en mesure d'expliquer les causes de ces morts dont l'origine est probablement accidentelle ou pathologique. Les espèces identifiées sont les suivantes : bovins, équins, canins, lapins, un jeune suidé et un jeune cerf. De plus, aucune exploitation des carcasses n'a été observée. Il s'agit d'événements ponctuels ou successifs ayant entraîné la mort de nombreux animaux à divers âges. De ce fait, les espèces concernées sont celles qui vivaient dans la ville.²³ Outre les espèces présentes, il est bon de relever l'absence des ovins, caprins, porcins et des volailles domestiques. Si on peut imaginer que les porcs et les poules évoluaient à proximité des habitations comme on l'a envisagé pour les lapins captifs,²⁴ il faut admettre que les caprinés étaient parqués hors de la ville. La taille et la nature des troupeaux ainsi que l'accès facile aux prairies et plaines voisines expliquent ce fait ; de la même manière, les porcs pouvaient également être gardés ou parqués à l'extérieur des murs. En

parallèle, la présence du jeune suidé (peut-être un marcassin) et du faon s'accordent avec l'hypothèse de l'existence de garennes et de l'ouverture des espaces urbains à des zones de jardins autour du changement d'ère, sur le modèle des jardins d'agrément bien connus dans le monde romain.²⁵ La chronologie est en accord avec cette hypothèse car les comblements des puits sont datés des I^{er} et II^e siècles de notre ère.

D'autres contextes permettent de repérer des zones de litières ou de fumier grâce aux études d'organisations sédimentaires.²⁶ Ces indices, avec les trouvailles effectives de coprolithes associées aux ossements rognés soulignent de manière concrète la présence d'animaux vivants, en particulier de chiens, dont certains squelettes complets et en connexion anatomique ont été retrouvés dans les rues antiques (Fig. 9). Toutefois, s'il est permis d'évoquer des chiens divaguant autour des maisons, les témoins de la présence effective d'espèces telles que les chevaux et les bœufs sont très rares. Sans doute faut-il envisager que ces derniers ne séjournaient pas dans la ville mais y étaient introduits pour les besoins des transports de marchandises ou pour être abattus (bien que cette étape n'ait jamais été attestée par les études archéozoologiques). Les fouilles récentes de la zone 1 (secteur 55) de la ville nous permettent de lever le voile sur cette question depuis la découverte d'une aire de circulation d'animaux identifiée grâce à des empreintes de sabots imprimés dans un sédiment organique



Fig. 9. Squelette de chien abandonné dans une rue de la cité antique de Lattes (Hérault, France). Pas de fosse visible mais l'inhumation volontaire n'en est pas pour autant exclue, même si aucun mobilier n'accompagne le squelette en connexion anatomique stricte.

²¹ Buxó & Piqués 2005 ; Py 2009.

²² Valenzuela Lamas & Gardeisen 2005.

²³ À moins d'imaginer que des carcasses d'animaux morts à l'extérieur des murs ont été introduits dans la ville pour être jetés dans les puits, hypothèse qui paraît peu réaliste.

²⁴ Valenzuela Lamas & Gardeisen 2005.

²⁵ Buxó & Piqués 2005.

²⁶ Ces résultats rendent compte des études des sols et en particulier de toutes les analyses micromorphologiques des sédiments.

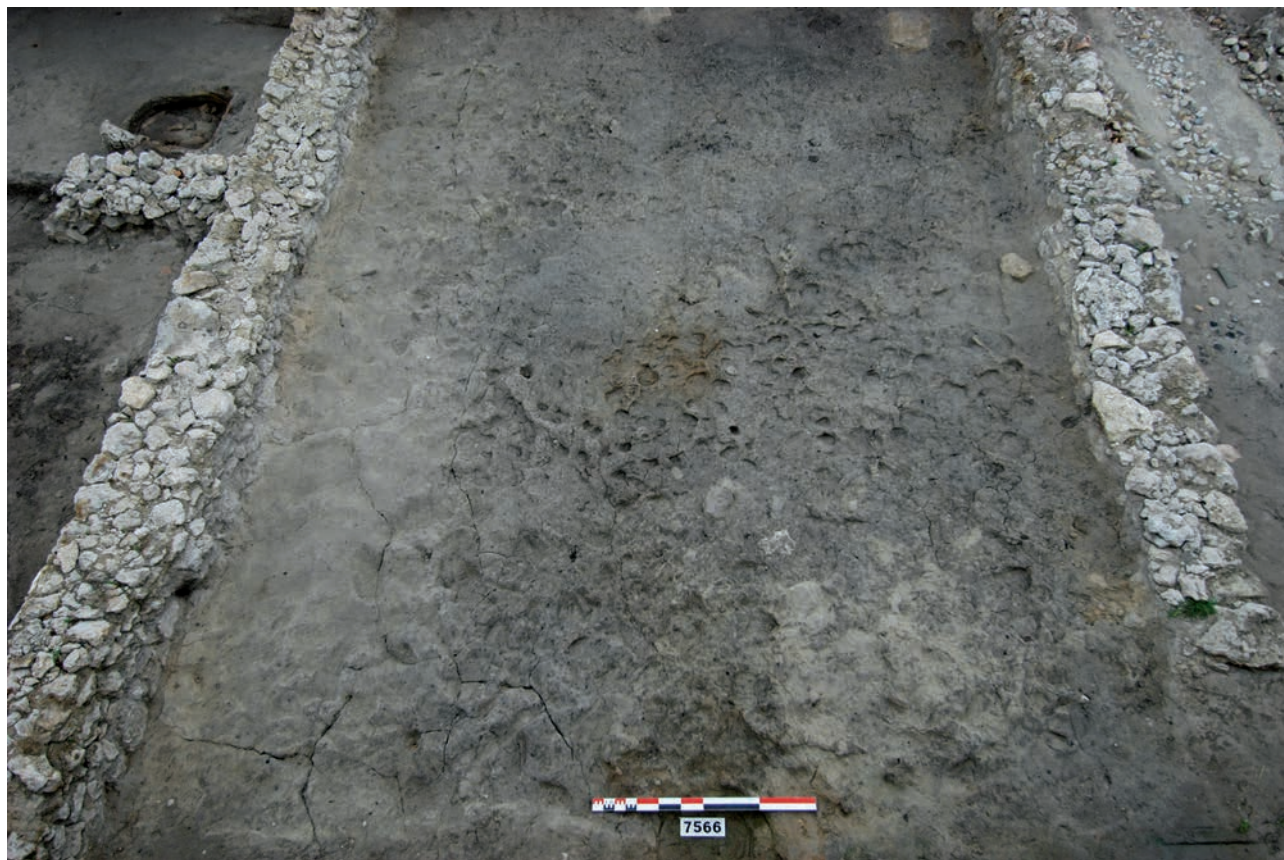


Fig. 10. Empreintes de sabots identifiées dans une couche du deuxième quart du Ve siècle avant notre ère dans la ville de Lattara (Hérault, France).

daté du deuxième quart du Ve siècle avant notre ère.²⁷ Les traces identifiées appartiennent à des équidés, des bovidés, et probablement aussi à des caprinés (Fig. 10). Le bétail circulait donc, mais ne stabulait probablement pas.

Le passage ou la présence ponctuelle d'animaux vivants à l'intérieur de l'espace anthropique, n'est que trop rarement documenté par l'archéologie mais constitue pourtant un élément d'organisation interne des habitats ou des sanctuaires qu'il ne faut pas oublier, d'autant que l'archéozoologie n'apporte que peu d'informations sur le sujet. L'écueil serait donc de laisser de côté toute la part de la participation animale à la vie quotidienne en se fondant sur les seules données archéozoologiques qui s'avèrent, dans ce cas, déficientes.

Parmi les restes animaux susceptibles d'être retrouvés au cours des fouilles, on recense des squelettes entiers ou sub-entiers dont l'état de conservation, la position en connexion anatomique, l'absence de traces de découpe et la localisation indiquent que ces individus ne sont pas passés dans le circuit

alimentaire. Il s'agit d'animaux morts, de manière naturelle ou accidentelle, dont les cadavres ont été abandonnés sur place, et rapidement recouverts. Les cas ne sont pas rares et concernent la plupart du temps des chiens, parfois des chevaux.²⁸ Plus originale est la découverte de la partie antérieure d'un squelette de loutre sur le bord d'une fosse datée du IIe siècle avant notre ère.²⁹ Dans d'autres cas, la présence de cadavres devait poser des problèmes de salubrité et des mesures étaient prises afin d'assainir les zones d'habitat. C'est ainsi que de nombreux animaux morts ont été jetés entiers à l'intérieur de puits hors d'usage.³⁰ Dans tous les cas, il n'était pas question de consommer la viande de ces animaux et le mode d'évacuation de leurs carcasses relève d'un comportement opportuniste mettant à profit une situation particulière. À ce stade, c'est la question de la gestion de déchets encombrants qui est soulevée : d'un point de vue archéozoologique, l'assemblage pourrait correspondre à celui d'une inhumation

²⁸ Gardeisen 2003, 177.

²⁹ Gardeisen, Porcier & Renaud 2010.

³⁰ Valenzuela Lamas & Gardeisen 2005.

²⁷ Belarte *et al.* 2008.

animale : c'est donc bien le contexte archéologique et les mobiliers associés qui permettent de faire la part des choses. Ces trouvailles sont relativement peu fréquentes et le nombre d'animaux vivants à l'intérieur des espaces anthropiques reste inconnu. Toutefois, il faut considérer que la mort d'un animal devait se produire régulièrement et que les carcasses devaient être évacuées ou consommées. La loutre représente une circonstance particulière pour laquelle il faut probablement envisager un piégeage de l'animal qui se serait introduit dans la ville, à ses dépens.

Les animaux et le monde des morts

Un assemblage faunique a été exhumé de l'une des tombes à incinération les plus tardives de la nécropole protohistorique d'Ensérune, dans l'Hérault (fin du III^e s. av. n. è.). Les restes osseux étaient localisés dans le secteur central de la tombe entre deux espaces différenciés où de nombreux vases et un fragment d'épée avaient été déposés (*Fig. 11*). Les ossements ont été prélevés individuellement et leur disposition relevée en plan et en profondeur. Il a ainsi été permis de mettre en évidence deux étages d'offrandes entremêlées.³¹ L'enchevêtrement des os souligne le caractère peu organisé de ces dépôts dont la mise en place semble avoir été aléatoire : il s'agit là encore du reflet d'un effet « fagot » initial. Les bonnes conditions de conservation ont mis en évidence des dépôts de type simples et spécifiques. Les dépôts simples sont consti-

tués par des ossements isolés alors que les dépôts spécifiques correspondent à la mise en place de portions anatomiques en connexion plus ou moins stricte observées sur le terrain ou en laboratoire.³² Les appariements ont été facilités par l'état de conservation des ossements, presque tous entiers, de même que l'état des surfaces a permis de repérer quelques stries qui témoignent de la mise en pièces des quartiers avant leur dépôt dans la tombe. On a ainsi dénombré quatre dépôts de portions de patte de porcs, trois de moutons, ainsi que quelques vertèbres d'un muge et une volaille déposée dans un vase. L'ensemble des ossements a été attribué à un dépôt d'offrande. On sait en effet que dans certains cas, peuvent être également déposés dans la tombe des restes du repas dit « funéraire » : il s'agit là d'un autre assemblage osseux qui se caractérise par des pièces de viande pouvant être incomplète, souvent fragmentées, assurément découpées, et que l'on retrouve sans connexion anatomique, car ce sont en réalité des déchets de table ajoutés aux offrandes. Par ailleurs, les ensembles ne matérialisent que peu d'individus pour quelques portions consommées. La tombe 2 de cette nécropole en avait donné un exemple très clair avec un mouton presque complet découpé au niveau de la tête, de la queue, et des extrémités des membres : les pattes étaient en connexion, matérialisant ainsi les offrandes viatiques, alors que les côtes et le rachis étaient dispersés, désorganisés, ne présentant plus de connexions, et quelques os portaient des marques de découpe bouchère.³³

Fig. 11. Tombe à incinération d'Ensérune SP1001 (Hérault, France) : on distingue les dépôts de faune au milieu des offrandes (céramiques, urne, armes). Les ossements sont individualisés et on ne trouve pas de connexion anatomique in situ.



³¹ Bel *et al.* à paraître.

³² Gardeisen 2002, 213.

³³ Gardeisen 1995.

La tombe 1001 se présente, du point de vue des dépôts fauniques, comme une tombe à dépôts multiples constitués à partir d'un cheptel local de petits ruminants, de porcs et de volailles.³⁴ La présence de poisson et de poulet est également attestée, fait habituel dans les tombes de cette période. Si le contenu animal de 1001 n'étonne en rien par rapport aux documents contemporains déjà connus,³⁵ on soulignera avec intérêt un processus de dépôts original constitué de membres préalablement mis en pièces et déposées os par os, ou en tas mais individualisés. Sans préjuger de la valeur de ces offrandes en relation avec l'identité ou la qualité du défunt, on constate que le rituel de l'offrande animale à caractère viatique s'organise, entre le III^e siècle d'Ensérune et les II^e et I^{er} siècles de la région nîmoise, selon des pratiques relativement homogènes qui témoignent de choix récurrents (disponibilité des animaux considérés) mais également variables selon les tombes (en fonction des espèces et des morceaux choisis). En règle générale, les portions squelettiques sont retrouvées en position anatomique mais à ce jour, seule la sépulture 1001 d'Ensérune documente le processus de mise en place des offrandes en pièces détachées observé à Pech Maho et à Montlaurès. L'hypothèse de perturbations post-dépositionnelles qui auraient provoqué la dispersion des ossements a été éliminée du fait de l'enchevêtrement des différents os disposés à différentes profondeurs (dans le cas d'ossements appartenant au même membre). D'autre part, les os longs non soudés ont toujours leurs épiphyses articulaires : dans le cas de perturbations post-dépositionnelles suffisamment importantes pour désorganiser l'ensemble de l'assemblage (dépôts secondaires, effondrements de supports en matière périssable, animaux fouisseurs ou intrusifs comme le lapin, élaboration de bouillons), ces éléments auraient été dispersés.³⁶ On peut penser que cela indique leur non consommation préliminaire ; celle-ci aurait, au cours de la cuisson (bouillons plutôt que rôtis en l'absence de marques de brûlure et de stries de découpe), entraîné la séparation des diaphyses et des épiphyses. De ce fait, il n'est pas exclu que les dépôts simples, faits d'ossements isolés, aient pu être consommés. Ces observations indiquent une pratique rituelle à laquelle participe une collectivité (et non pas un seul individu ?) au cours de laquelle les parts de viande sont déposées les unes après les

autres de façon aléatoire, en fonction de l'espace disponible et de l'agencement des autres offrandes.³⁷ En tout état de cause, c'est le geste qui est mis en évidence ici, dont la répétition dans des contextes différents mais contemporains et proches géographiquement évoque un rituel : celui de dépôts d'offrande dites viatiques à l'attention du défunt. Le mode de mise en place de ces offrandes relève quant à elle d'une pratique, incluse dans le rituel, et que l'on matérialise grâce aux accumulations d'ossements individualisés déposés en fagot.

Inhumation animale

Les cas avérés d'inhumation animale sont relativement peu fréquents et concernent en règle générale un nombre réduit d'espèce. Les animaux concernés sont sans surprise les chiens et les chevaux, et dans une moindre mesure des espèces sauvages, comme les cerfs. Toute la difficulté consiste à identifier sur le terrain une fosse ou un aménagement spécifique à une organisation sépulcrale. C'est justement sur ce type d'argument que les animaux morts abandonnés dans les rues d'une ville ne sont pas identifiés comme des animaux inhumés, avec toute la charge religieuse ou symbolique que cela suppose. D'un strict point de vue archéozoologique, l'inhumation animale pourrait être définie comme un assemblage osseux appartenant à un seul individu dont les segments anatomiques sont observés en position anatomique sur le terrain et qui *a priori*, ne présente pas de marque de découpe. Ces remarques doivent dans la mesure du possible être complétées par des observations archéologiques correspondant à des aménagements ou à des dépôts de mobilier assimilable à la réalisation de la sépulture (fosse, éléments de couverture ou de signalisation, épigraphie, mobilier associé tel qu'un objet en relation avec l'individu inhumé). Il s'agit bien dans ce cas d'une inhumation animale, et non pas d'un animal déposé en association directe avec une tombe humaine du fait de sa relation avec le défunt (chien de compagnie, offrande viatique complète, chevaux attelés à un char, etc).

On citera ici l'exemple des inhumations d'équidés de la nécropole orientale d'Amphipolis.³⁸ L'originalité de ces inhumations réside dans la reconnaissance de chevaux, d'hybrides (probablement des mules) et d'ânes mélangés. Certains des squelettes ont subi des perturbations assez fortes dues aux réaménagements successifs du cimetière des hommes, alors que d'autres ont été protégés et retrouvés dans un excellent état. Grâce à la représentation optimale de tous les os entiers, une analyse morphologique doublée d'une étude ostéométrique ont permis d'atteindre un degré de détermination spé-

³⁴ Le bœuf n'a jamais été mis en évidence dans les autres tombes du site, il n'est représenté ici que par deux restes de vertèbres hors couche des offrandes.

³⁵ Gardeisen 1995.

³⁶ Le mode de préparation et de cuisson est déterminant dans ce genre de conservation osseuse : si la portion de viande est crue, alors, les épiphyses auront plus de chance d'être retrouvées à proximité de leur diaphyse. En revanche, si la portion de viande est cuite, ou précisément bouillie, alors la portion correspondante aura toutes les chances de se disloquer dans le bouillon et les différentes parties d'un même os dispersées.

³⁷ Bel *et al.* à paraître.

³⁸ Malama & Gardeisen 2005.



Fig. 12. Inhumation du fœtus de cheval (FEEQ 9) à l'intérieur de l'habitat, au pied d'un mur : forteresse de Els Vilars (Arbeca, Catalogne, Espagne). On observe l'adaptation à la fosse aménagée et les connexions anatomiques visibles.

cifique suffisant pour ajouter à la liste des animaux habituellement inhumés les ânes et les mules. Ajoutons que quelques chiens ont également été trouvés à Amphipolis. Il est intéressant de constater que les représentations anatomiques des différents équidés d'Amphipolis sont du même ordre que celles des chevaux évacués dans le puits de Lattara, ou encore celle du cheval mort abandonné au coin d'une rue de la même ville. Mais ils se différencient très nettement des assemblages d'équidés de Pech Maho par les connexions observées *in situ* à l'échelle de squelettes entiers, par l'absence de dispersion des os, par l'absence également de marques de découpe ou encore de l'action du feu.

Le deuxième exemple significatif que l'on présentera est celui de fœtus de chevaux enterrés à l'intérieur de maison dans la forteresse ibérique de Els Vilars, près d'Arbeca, en Cata-

logne occidentale.³⁹ La pratique de l'inhumation animale à l'intérieur de l'habitat est rare, on l'a vu, et surtout elle est difficile à mettre en évidence au niveau stratigraphique et chronologique. À Els Vilars (Fig. 12), en plus de la caractérisation de chaque inhumation (fœtus en position anatomique stricte, présence de fosse, localisation près d'un mur ou d'une porte, continuum de la pratique en diachronie sur trois ou quatre siècles au moins), on dispose de l'originalité de cette pratique jusqu'à ce jour uniquement connue en Catalogne et peu décrite. Pourquoi introduire dans la ville, dont l'urbanisme et l'habitat est particulièrement exigu, des fœtus morts par avortement à l'extérieur de la ville ?⁴⁰ Cette volonté répétée d'introduire dans le contexte domestique le cheval qui ne naîtra jamais, ne peut-elle pas relever que d'un acte manifes-

³⁹ Nieto *et al.* 2010.

⁴⁰ Postulat fondé sur l'absence de structures ou d'organisation de type écurie, suffisamment vaste pour accueillir des chevaux ou des juments gravides.

tement non subsistanciel qui consiste à attribuer à l'animal, ou plus largement à son espèce, une fonction particulière au sein de la société ibérique entre le VI^e et le III^e siècle ? C'est probablement ce statut propre aux chevaux qui justifie l'acte d'inhumation auquel, grâce à l'étude archéozoologique, on est en mesure de donner quelques éléments complémentaires : diagnose spécifique, position du corps, détermination de l'âge, hypothèses sur les causes de la mort.

Archéozoologie et sanctuaires antiques

Les données récentes de l'archéozoologie des sanctuaires dans le monde grec sont disparates et inégales. Les contextes sont variés, les méthodes d'approche souvent divergentes. Néanmoins, et comme c'est souvent le cas en archéologie, il est possible de souligner quelques grands traits des informations acquises et surtout, de poser quelques questions. Un certain nombre de sources documentaires se croisent sur le thème de l'animal dans les sanctuaires,⁴¹ ou encore sur le rôle des animaux dans les pratiques cultuelles. Parmi ces sources, on mentionnera la littérature classique, l'épigraphie, l'iconographie, et bien évidemment l'archéologie. Dans un premier temps, il est possible d'en tirer des observations d'ordre général. Les animaux apparaissent dans les sanctuaires sous forme de troupeaux vivants à vocation en partie spéculative, puis individuellement, entiers ou en pièces, destinés au sacrifice à un dieu, à une offrande, ou encore à un repas. De nombreuses pratiques d'ordre rituel participent de l'intervention de l'animal : les sacrifices (sanglants ou non), les offrandes, les banquets, les rétributions, les représentations figurées dont certaines sont parfois accessibles à travers des assemblages osseux issus de contextes archéologiques comme des temples, autels, *hestiatoria* et d'autres totalement immatérielles, que seules les sources littéraires nous dévoilent.⁴² En parallèle à ces pratiques cultuelles, on retrouve dans les sanctuaires des structures de type domestique qui sont les mêmes que celles des habitats : des cuisines, des fours, des foyers, des dépotoirs, des charbons, des restes végétaux, des ossements, des squelettes, et tout un *instrumentum* lié à la préparation de la nourriture (vaisselle, céramiques de cuisson et de stockage, vases à boire, meules, outils de boucherie, etc).

La question qui se pose, lorsque la présence animale est attestée à l'intérieur du sanctuaire, est la suivante : quel est l'état de sacralisation de l'animal et avec quel degré de certitude (ou d'incertitude !) est-il possible de le placer archéologiquement au sein d'un rituel reconnu et documenté par ailleurs ? En d'autre terme : en quoi consiste la sacralisation d'un animal, comment l'identifier ? Ce qui revient à déterminer en quoi l'assemblage faunique diffère d'un assemblage de type domestique correspondant à des activités vivrières récurrentes ou à des pratiques à caractère économique (production, exploitation, gestion des cheptels, prédation). En un mot, comment distinguer une activité « profane » d'une activité « religieuse » ?

Les espèces rencontrées dans les sanctuaires sont majoritairement et régulièrement des animaux domestiques : bovins, ovins, caprins, porcins. Ces animaux proviennent donc de cheptels à vocation spéculative, et sont prélevés sur les troupeaux en fonction de leur disponibilité et des règles ; ils ont un coût, et par conséquent une valeur économique tout autant que sociale. Aux animaux dits de bouche s'ajoutent des chevaux, des chiens, des volailles et ponctuellement des espèces chassées ou pêchées (lièvres, cerfs, daims, oiseaux, carnivores, reptiles, poissons, coquillages, oursins) ou des espèces dont le statut est difficile à définir (reptiles, rongeurs). Les spectres fauniques s'élargissent souvent en fonction des méthodes de fouilles mises en place au moment des opérations archéologiques, mais la présence effective d'animaux de petite taille dans le déroulement des cultes n'est pas exclue, raison pour laquelle le contrôle taphonomique se doit d'être exigent. La question du choix des animaux, présents, consommés, sacrifiés ou brûlés répond à des règles du rituel religieux dictées par les dieux via les prêtres,⁴³ ou parfois, dépend plus matériellement d'une disponibilité de l'animal. Chaque sanctuaire semble avoir ses « habitudes », somme toute dans bien des cas assez peu éloignées de celles des habitats, les caprinés étant les animaux consommés les plus régulièrement attestés. Ce constat ne relève pas exclusivement de l'exercice du culte, mais comprend tous contextes au sein des temples, n'impliquant pas nécessairement un culte donné. De nombreux faits⁴⁴ archéologiques sont recensés : des autels, des aires sacrificielles, des salles à manger, des foyers rituels, mais aussi toute la panoplie ou presque des faits qui parsèment les sites d'habitat : des sols, des remblais, des banquettes, des cuisines, grottes, cours, enclos. À cela s'ajoute des mobiliers tels que des figurines, des céramiques à libations, tripodes, brase-

⁴¹ Le terme est employé ici au sens générique pour des lieux où se déroulent des événements non exclusivement domestiques encadrés par des règles rituelles ou des croyances en des êtres supérieurs ou bien des divinités.

⁴² Rétribution du prêtre, règles canoniques, etc.

⁴³ Choix des animaux sur des critères d'espèces mais aussi d'âge, de sexe, de couleur de robe, etc.

⁴⁴ Les faits archéologiques sont, avec les unités stratigraphiques (US), l'un des deux concepts de base de la description des données de terrain ; le fait est un regroupement d'US entrant en composition dans des structures identifiables du point de vue technique ou fonctionnel (Système Harris).

ros, directement associés à l'exercice du culte, mais aussi des crochets, des astragales travaillées, des restes végétaux, des ossements, que l'on retrouve régulièrement dans tout contexte archéologique et dans des proportions variables en fonction de ces derniers.

Les interprétations sont généralement fondées sur des ensembles et des mobiliers archéologiques hétéroclites et inégaux en quantité et en nature. Il n'y a pas en ce domaine de modèle, aussi c'est au coup par coup, selon l'environnement « archéo-historique » et le degré de témérité des archéologues, que l'on atteint des hypothèses : de sacrifices privés ou publics ; de sacrifices holocaustiques ; de banquets ; de sacrifices de fondation ; de reconnaissance d'ateliers artisanaux ; de mise en évidence de phases de destruction, de construction, d'aménagement, de remblaiements, etc. Des événements à géométrie variable entre le strictement religieux, et le domestique en contexte religieux.

Dans le monde grec, la majorité de la documentation provient des périodes archaïque et classique. Les contextes d'époque mycénienne correspondent à des interprétations de *feasting*, pratique que l'on retrouve sous différentes formes jusqu'à l'Antiquité romaine. Les actes de consommation sont récurrents et la diversité des contextes nous amène régulièrement à constater la présence de déchets de consommation dans les sanctuaires au même titre que dans les habitats. D'autres pratiques semblent perdurer parallèlement comme le rituel holocaustique, les fémurs de caprinés brûlés⁴⁵ ou le traitement particulier des peaux. Le recours aux flammes est régulièrement signalé : soit par la simple présence de fragments osseux brûlés, soit par des reliquats de crémations plus accomplies. Certaines coutumes comme celle des sacrifices de fondation réalisées à l'occasion de réaménagements dans les maisons, les remparts, les tombes ou les temples sont fréquentes à l'époque géométrique. Des activités telles que des ateliers artisanaux de type de ceux identifiés à Corinthe à diverses époques indiquent que des modifications pouvaient se produire au cours du temps à l'intérieur de l'enceinte des sanctuaires. Parmi les différentes structures identifiées, on pourrait s'attarder sur celles qui relèvent de la préparation de la nourriture et de la consommation de celle-ci : on pense en particulier aux cuisines et aux salles à manger, agrémentées de foyers ou de fours. Du point de vue archéozoologique, ces contextes sont peu explicites : peu d'ossements sont trouvés dans les cuisines, et encore moins dans les salles à manger où les *hestiatoria* (Corinthe, Ténos). En effet, les déchets doivent être évacués quelque part, et on imagine mal les reliefs des repas abandonnés systématiquement sur place, surtout dans les cas de banquets publics. La question des traitements

des déchets doit être posée à l'intérieur des sanctuaires tout comme elle l'est, de manière naturelle, à l'intérieur d'une ville ; dans les sanctuaires, force est de constater que les trouvailles de dépotoirs sont inexistantes.

Il est d'autant plus difficile de dresser un tableau des pratiques culturelles ou rituelles au sein des sanctuaires que les témoignages sont très inégaux d'un site à l'autre, et cela tient en grande partie au fait que les opérations archéologiques sont d'ampleurs différentes, ayant mis ponctuellement en œuvre des techniques de prélèvement et des protocoles d'études des mobiliers.

Globalement, les étapes principales sont les suivantes :

- La victime est amenée pour le sacrifice ; elle est probablement choisie selon des critères religieux. Dans certains sanctuaires, elle peut être parquée à l'intérieur d'un enclos. Il existe une tarification pour l'animal en question.
- L'animal est conduit à l'autel puis est assommé avant d'être égorgé.
- Les entrailles comme la peau, les cornes, la queue sont récupérées (pour le prêtre, pour offrande, etc.). Le « boucher » ou serait-il plus juste de parler d'« opérateur » procède à la découpe, en respectant les articulations. Il y a une distinction nette entre l'os et la viande, tout au moins à l'époque classique. La carcasse doit être découpée en parts (égales ?).
- La viande peut être conservée crue, cuite dans un pot (en ragoût), ou encore rôtie directement sur le foyer ou sur un brasero.
- L'offrande destinée au repas divin est déposée. Plusieurs cas de figure sont alors possibles : sur du pain, sur une table, sur des feuilles végétales, dans un panier, au pied d'un trône ou d'une statue, ou encore sur le foyer.
- La viande restante est destinée aux participants à la cérémonie. Il s'agit d'une viande consacrée, consommée au cours des banquets.
- Les déchets sont évacués. Les prêtres emportent leur part, qui sera consommée ailleurs et à un autre moment.

À ces différentes étapes théoriques correspondent des assemblages osseux spécifiques,⁴⁶ mais qui malheureusement, ont subi des phases de modifications importantes. C'est le cas

⁴⁵ L'utilisation des fémurs est souvent détectée par leur absence des assemblages, car leurs restes sont détruits au cours de leur crémation.

⁴⁶ Le contexte archéologique car des assemblages zoologiques peuvent présenter de nombreuses similarités en dépit de leur présence dans des contextes différents (banquet, dépôt animaux dans l'habitat, inhumation de bébé domestique).

des os brûlés dont la détermination spécifique et anatomique est souvent difficile, voire impossible, lorsqu'il s'agit d'aller jusqu'à la reconnaissance de latéralité de l'os. Dans le cas des os non brûlés, se pose la double question de leur découpe, puis de leur décharnement éventuel.⁴⁷ D'un point de vue général, en archéologie, se pose le problème des incertitudes relatives à la durée de fonctionnement des structures et par conséquent à la superposition d'événements successifs que la stratigraphie n'est pas toujours en mesure de différencier. Enfin, le rapport entre l'événement effectif et le lieu de dépôt ou d'abandon des mobiliers est difficile à contrôler. La notion de dépôt primaire ou secondaire intervient à ce niveau, mettant ainsi en exergue la notion de taphonomie et de processus de modifications et de perturbations post-dépositionnels, tels que nous les avons déjà évoqués en préambule.

Limites méthodologiques

En premier lieu, les limites de l'analyse des mobiliers fauniques sont celles de l'archéologie (fouille, conservation, taphonomie, comportements techniques et culturels au sein de l'espace anthropique, etc.). En second lieu, ce sont celles des méthodes propres à l'étude archéozoologique : diagnose ostéologique différentielle, fragmentation osseuse, dénombrements, biais divers de lecture dus à l'état du mobilier osseux de manière générale, et enfin modes d'interprétation (recours à des modèles, mise en œuvre de traitements statistiques, évaluations ou estimations critiquables du point de vue zoologique mais utilisées dans les discussions).

Les exemples archéozoologiques ont ici été donnés à titre d'information et d'avertissement. Il en ressort que la mise en œuvre de la discipline doit être réalisée sans *a priori*, c'est-à-dire sans être orientée par une interprétation des assemblages fondée sur une approche globale du contexte archéologique. En effet, l'interprétation comportementale réserve parfois des surprises et souligne des faits et gestes qui ne sont pas toujours attendus dans un environnement donné (qu'il soit de nature domestique ou culturelle). Enfin la diversité des gestes et leurs motivations gênent le recours à des modèles pré-établis, quand bien même ces modèles auraient été validés par ailleurs (mais malheureusement, jamais dans un contexte strictement identique des points de vue culturel, géographique ou chronologique). Ces remarques ont pour ambition d'alerter le lecteur sur la signification des assemblages osseux animaux : il n'est pas toujours raisonnable d'extrapoler de l'os à l'élevage,

de la consommation à l'économie, et de l'observation d'un geste à un rituel religieux. L'expérience montre que les cas de figures diffèrent plus qu'ils ne se ressemblent en archéologie ; ils nous engagent ainsi à rester modestes et attentifs, seule l'accumulation des observations à une échelle chrono-culturelle large permet d'affiner notre compréhension du fonctionnement des différents espaces anthropiques.

Des activités religieuses ou rituelles impliquant des animaux sont mises en œuvre dans des contextes domestiques ou d'habitat et à l'inverse, des activités domestiques dans des sanctuaires. La synergie nécessaire entre l'archéologue, l'archéozoologue et l'historien a pour but de démêler les faits archéologiques résultants des activités humaines et de les mettre en relation avec des sources textuelles de manière à enrichir des interprétations aux niveaux social, culturel, économique et religieux, apportant ainsi, petit à petit, des éléments de réponse à la question de la place et du rôle des animaux dans les civilisations antiques.

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⁴⁷ En effet, pour l'obtention de pièce de viande, l'opérateur peut procéder à un désossage de la portion : il y aura donc un traitement différencié de la viande, sans os, et de l'os, sans viande.

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Evidence of animal offerings in Iron Age Scandinavia

Abstract

Written contemporary sources of animal sacrificial rituals in Iron Age Scandinavia are almost non-existent. However, we have some rare descriptions about the people of northern Europe from Roman historians. Most famous of these is of course Tacitus who gives us valuable information about life in Scandinavia during the first century AD. Among other things we learn about fertility rituals carried out in sacrificial bogs and we understand the close connection between the goddess and water. Tacitus' descriptions, as well as younger sources such as the Old Norse religious texts of Scandinavia, also clearly tell us about the magic role of different animals such as birds, wild boar, wolf and horse. In the archaeological material we try to recognize traces of religious acts that once took place. But how can we tell the difference and distinguish between the remains of ritual animal offerings on one hand and the normal kitchen waste on the other? This paper deals with some examples of horse offerings in bogs and ponds and with ritual deposits of animal bones in dry settlement contexts in Sweden. Zooarchaeological analysis gives us valuable data and a key to interpret the animal bone assemblages as evidence of animal offerings.

Introduction

In principle, there are no primary written sources from Iron Age Scandinavia (ca 500 BC to AD 1000). Apart from the rune stones, this era offers no domestic written records describing the lives of the people living on Europe's northern edge. However, there are a good number of descriptions from "outsider" writers, for example Roman chroniclers such as Tacitus (AD 55–120), whose *Germania* is the most frequently cited work. This gives details of, amongst other things, the cult of Nerthus, a goddess who, in the spring, travelled over fields and meadows in a wagon drawn by oxen. According to the description, the cult of this goddess included offerings in sacred lakes not only of carts and draught beasts, but also of humans.¹

¹ Näsström 2009.

With a wealth of sagas describing events and customs in the times before the establishment of Christianity, northern literature hints at the making of offerings in connection with, for example, sacrifices or victories in battles. However, the value of these sources is limited by their having been written several hundred years after the events they relate. The picture stones from the 5th to 9th centuries AD also tell stories, but not in words. Among several motifs on these stones we can find examples of human sacrifice on some kind of altar.²

As regards conditions in pre-Christian Scandinavia, one often-cited source is *Description of the islands in the north* by Adam of Bremen (AD 1040–1081).³ Adam tells, for example, that, every ninth year, there was a major ceremony in which the bodies of horses and human beings were hung in a sacred grove. This ceremony involved the slaughtering of offered animals, special handling of the blood and the giving of sacrificial gifts to the gods. It also included ritual meals of sacrificed animals and the offering of libations. The sources hint at the strong ties between animals and gods in Scandinavian mythology.⁴

The written sources present the official cult. However, restricted to aristocratic settings, this is a very limited and fragmentary picture. Domestic rituals in the private sphere of more ordinary homesteads are barely touched upon. There is nothing on votive offerings in wetlands and pits or under stones. Consequently, there is an evident discrepancy between the few written sources and the abundant archaeological finds.

² Nyhlén 1978, 63.

³ Adam av Bremen 4.27.

⁴ Jennbert 2002.



Fig. 1. Map of southern Sweden showing the geographical position of the case studies mentioned.

criteria are the location of the deposition and the special nature or unusual treatment (for example, burning or crushing) of the deposition.⁵ It is thus a question of evaluating the combination of artefact and context, i.e. *what* has been deposited and *where*.

Wetlands and various types of interments are the most common contexts for finds of ritual depositions of animal bones. This is a natural consequence of today's finds being whatever has been preserved beneath the surface of the ground. Ritual depositions

above ground would not be preserved in the same way. It is thus entirely possible that what we find primarily reflects those ritual observances where the intended recipient of the offering was found either in the water or below the ground.

Animal bones can form part of various offerings—food, gift, protection, booty, etc. In these varying contexts, the offerings can be very different in nature and composition. Applying a simplified interpretation, bones from meaty parts of various animals could be seen as food offerings. Gift offerings could be whole animals sacrificed in a ritual manner and then neither butchered in the usual way (for slaughtered animals), nor eaten. Protection offerings could be specifically selected parts of various animals that symbolically have protective properties, e.g. crania or clawed paws. However, the picture is more complicated than this.

We shall take a closer look at some Swedish examples of various contexts of offerings that include ritual depositions of animal bones (Fig. 1). These examples comprise wetland offerings, offerings in wells and waterholes in close vicinity to settlements and dry depositions in pits within settlements. Another large group of finds in this connection (not dealt with in the present paper) is made up of animals offered at burials in both cremation and interment contexts. Such evidence of offerings is less complex in character and, on the face of it, easier to interpret and understand.⁶

Different types of offerings

Archaeological material from settlements and burial grounds should be capable of providing a more detailed picture. But how is evidence of rituals and offerings to be recognized? This is a question that archaeologists often wrestle with when interpreting finds and structures within various cultural contexts. We cherish a desire to be able to distinguish the sacred from the secular. However, there are many difficulties to be overcome here. To begin with, in a prehistoric context, there was no clear dividing line between sacred and profane. The sacred was an integral part of everyday life and rites were observed in various household activities—sowing, harvesting, slaughtering, hunting, fishing, the brewing of beer, the baking of bread, the erecting of buildings and enclosures, etc. Through the making of offerings, there was communication with the sacred world. Votive offerings and ritual deposition gave an everyday object sacred importance, thereby obliterating the distinction between profane and sacred.

The making of offerings can leave evidence in the form of, for example, the deposition of animal bones. Even if animal bones found in archaeological excavations are most often interpreted as food or slaughter waste, other interpretations are sometimes justified. There are hundreds of examples of finds from archaeological excavations being interpreted as evidence of rituals. Yet, what is it that allows a deposition to be regarded as ritual and not just as ordinary kitchen waste? One criterion that is usually emphasized is the absence of functional explanations for a deposition. Other important

⁵ Capelle 1985.

⁶ Sten & Vretemark 1988.



Fig. 2. Finnestorp votive bog in Västergötland in western Sweden. Offerings were made here from about AD 100 to 600. A lot of horse bones have been found along with metal objects such as weapons and high-quality equestrian equipment.

Evidence of offerings in bogs

From both the Iron Age and earlier, there are many examples of ritual depositions in water and wetlands. Bogs used for making offerings in the Iron Age have been found throughout southern Sweden and Denmark. Discovered in some of these bogs, archaeological artefacts in the form of broken weapons and parts broken from saddles and snaffles have been interpreted as war booty offerings. In other words, the victors offered the gear of the vanquished. Other bogs have yielded household utensils, ceramic vessels and farming implements that tie up with fertility offerings of a more private character in connection with harvests, planting, death, birth, etc. Finds of both these types are sometimes discovered together. This indicates that the bogs were returned to (most frequently from AD 100 to 600) to make offerings for varying purposes. All these votive bogs also yielded varying quantities of animal bones. Some of the most important wetland finds with large proportions of animal bones come from the Skedemosse bog on the island of Öland in eastern Sweden and from Finnestorp bog in Västergötland in western Sweden (Fig. 2).

Skedemosse is situated in the middle of Öland. The bog used for offerings was large (400 × 700 m). It is regarded as having been used by people from a wide area and not just the

nearest settlements.⁷ Around one ton of skeletal material has been recovered and analysed.⁸ Most of this (35%) was horse. Cattle and sheep/goats made up 28% and 22% respectively. In addition to bones from pigs, dogs, red deer and a few other wild mammals, there were also human bones from some 40 individuals. In the skeletal material from the neighbouring settlements, horse accounts for only 4–5% while sheep and cattle were totally dominant. There is thus a striking difference between the bog and the settlements. This sets the bog material apart as unusual and specially selected.

Skedemosse has some concentrations of articulated bones from the same individual. This shows that entire animals sometimes ended up in the bog. However, such finds are in the minority. Predominantly, finds are of scattered bones that do not show signs of butchery. Nonetheless, as the bones are not in their articulations, the bodies were most often clearly dismembered before deposition. There is also a certain incidence of butchered bones and bones split for marrow. Coming from horses, cattle and sheep, these are interpreted as meal offerings and remains of ritual meals. A further observation is that the horse skulls show no signs of the death-blow (usually evident as crush damage) normal for slaughtered cattle

⁷ Hagberg 1967, 79–81.

⁸ Boessneck & von den Driesch 1968.



Fig. 3. Thin cut marks on the horse bones, such as this on a rib, show that the horses were flayed and their flesh cut away before the bones were thrown into the water of the Finnestorp votive bog.



Fig. 4. A horse sacrum from Finnestorp with clear cut marks. These marks may indicate that the tail was cut off.

and horses. This can be interpreted as horses being killed by exsanguination via a cut to the throat. Ritual killing thus used a method different from that employed in normal slaughter.

The votive bog at Finnestorp in Västergötland has been partially excavated at various times. Besides significant quantities of metal objects (weapons and parts of high-quality equestrian equipment), animal bones make up the finds here. The metal finds have been interpreted as war booty offerings from the 4th and 5th centuries AD.⁹ However, ¹⁴C-dating of the bones shows that offerings were made over a longer period from AD 100 to 600. Thus, the bones could be the result of annual ritual offerings (over several centuries) in a bog that was recurrently used by people from a wide area. The position on the boundary between two central rural settlement districts supports this theory.

Unlike Skedemosse, Finnestorp has yielded almost exclusively (99%) horse bones with a few individual bones

from cattle, pigs and humans.¹⁰ With other animal species being negligible here, this is thus a question of horse offerings. Bones from the same animal were only found together in exceptional cases. Otherwise, bones seem to have been scattered with no link to the individual animals and in no anatomical order. The horse bones are often intact and these bones, as well as the fragmented horse bones, show no signs of butchery. However, there are thin cut marks showing that the horses were flayed and their flesh cut away (Figs. 3 & 4). This gives the impression that there was conscious care not to damage the bones and that it was important for the bones to remain whole. The make-up of the bone collection shows that all the various body parts are present in the material (Table 1).

Based on the evidence of the Finnestorp bones, one possible scenario is that the horses were killed ritually in connection with sacrifices, special festivals, feasting or other important events. The bodies were flayed and the meat carefully cut from the bones. The meat was eaten at ritual meals, which most probably also involved entrails and blood. Subsequently, the bones were deposited in the bog as offerings.

Horses are central in wetland offerings where there are animal bones. This is clearly shown by the two examples presented here, the same picture being given by the Danish counterparts in, for example, Illerup and Nydam.¹¹ The horse was a special animal in Iron Age Scandinavia, a mediator between man and the world of the gods. In myths, the horse features as a steed of gods and a transporter of heavenly bodies. Horses are associated with warriors, the aristocracy and cults. Most probably, we here see evidence of a horse cult that was widely followed in southern Scandinavia and in which the making of offerings (i.e. the formal practice) was part of the official cult overseen by society's elite.

Offerings in wells and waterholes

By the Eketorp fortress on southern Öland, there is a waterhole where quantities of animal bones deposited between the 4th and 11th centuries AD have been found.¹² More than 50% of the bones are horse. In comparison, kitchen waste from the fortress is largely dominated by sheep, with horse being less common. There is thus a clear difference in the incidence of the species. Skulls, phalanges and caudal vertebrae are over-represented in the horse bones from the waterhole. This has been interpreted as the hides, with heads, hooves and tails intact, having been set up on poles around the waterhole.

¹⁰ Vretemark 2004a; 2009.

¹¹ Ilkjaer 2001.

¹² Backe *et al.* 1993.

⁹ Nordqvist 2007.

Table 1. Number of fragments from different horse bones representing all body parts found in the votive bogs of Skedemosse and Finnestorp. Most of the bones were scattered with no link to the individual animal and found in no anatomical order.

Horse bones	Finnestorp	Skedemosse
Cranium	27	611
Mandibula	27	294
Dens	145	723
Hyoid		77
Vertebrae	65	1025
Sacrum	5	34
Costae	91	961
Sternum		10
Scapula	14	107
Humerus	16	119
Radius/ulna	9	143
Carpalia	4	380
Metacarpus	8	128
Pelvis	22	129
Femur	21	172
Patella	2	24
Tibia	35	121
Malleolus		10
Tarsalia	13	408
Metatarsus	22	132
Metapod	8	351
Phalanx	16	777
Sesamoidea		424
Total number of fragments	550	7160

There they remained a while until decomposition resulted in the bones falling into the water. This is linked to the Old Scandinavian tradition of the *nidstang*, i.e. a pole on which a horse's head was set.¹³ The waterhole is not large and it is probable that the offerings made here were of a local nature.

Hjärup in western Skåne in southern Sweden is a further good example of Iron Age animal offerings in water contexts near to homesteads. In the 1990s, the excavation here unearthed something that was interpreted as a well for offerings. This votive well was located in the open space just south of the long house. The well, which dates from between the 6th and 8th centuries AD, was surrounded by a number of

small hearths. Bones accounted for most of the finds in the open area, but there were also ceramics, part of a millstone and the remains of a pointed oak pole driven into the bottom sediment of the well. Apart from a roe deer metatarsal, the animal bones were from domesticated animals. Cattle dominated, followed by horse, these together making up around 80% of the fragments from the well.¹⁴ Other domesticated animals (sheep/goats and dogs) were represented by a small number of fragments.

The cattle and horse percentage in the material from the well was almost double that in the animal bone material from the rest of the settlement. It was also striking that skull fragments, lower jaws and foot bones dominated the finds. On the bones, there were marks showing that the meat had been cut away. The pointed oak pole that had stood in the well was interpreted as a *nidstang* on which horse or cow hides (with skulls and legs intact) had been hung.¹⁵ The many hearths around the well were interpreted as evidence of collective food preparation for joint cult celebrations and feasting. Leftovers were then thrown into the votive well.

There is a broadly analogous example from Järrestad (in eastern Skåne) where a number of wells from the 9th and 10th centuries AD yielded contents similar to those of the votive well in Hjärup.¹⁶ In Järrestad too, a millstone was found amongst the animal bones. Skulls and lower jaws dominate the bone finds and the incidence of species in the well differed from that in the settlement as a whole by the considerably higher percentage of horse and cattle bones in the well.¹⁷

Animal offerings in dry contexts in settlements

Based on the available finds, it may be observed that lakes and wetlands were the predominant contexts for offerings in the Iron Age up until the 6th and 7th centuries AD. A change began in the 5th and 6th centuries when the picture became more multifaceted. With the making of offerings being linked to settlements (and, in particular, large homesteads), a new pattern of rituals was emerging.¹⁸ Ritual depositions became more common. This has been interpreted as a new ritual praxis linked to everyday settings partially taking over from an older praxis linked to the landscape.¹⁹ Depositions of animal bones were made in pits, postholes, building founda-

¹³ Loumand 2006.

¹⁴ Nilsson 1998, 3ff.

¹⁵ Carlie 2002, 672–675.

¹⁶ Söderberg 2003.

¹⁷ Nilsson 2009, 84–94.

¹⁸ Carlie 2009, 26f.

¹⁹ Fabech 2009, 335–338.



Fig. 5. Building offerings underneath floors, sills and thresholds were quite common during Iron Age in Sweden. These depositions were often animal bones, for example a horse cranium.

tions, wells and hearths. Building offerings (often horse skulls underneath floors, sills and thresholds) were also comparatively common in Iron Age Scandinavia (Fig. 5).²⁰

Archaeological excavations in central and southern Sweden have yielded several examples of animal offerings in settlement contexts. To show the great complexity and variation in this type of find, two of these examples (from Västergötland and Östergötland) are briefly touched upon here.

The first is from Västergötland. During road construction, there were large archaeological excavations at Skultorp (south of Skövde) between 2001 and 2003. Many Iron Age settlements were investigated. These included areas where there was evidence of rituals.²¹ Depositions containing animal bones were found. While most of these were judged to be standard waste material, some were interpreted as votive pits. Examples of interesting features here are five small, buried, limestone chests, dated to the early Iron Age around 400 BC (Fig. 6). Two of them contained unburnt and intact extremity bones from lambs. The others were empty. The bones were interpreted as evidence of the making of an offering in which a slaughtered lamb was put into a container and buried, most probably with no consumption of the meat.²² Could this have been a food offering as part of a fertility rite intended to ensure the homestead's good fortune?

Another example from the same investigation related to a pit with burnt and unburnt cattle and sheep bones, a few

Fig. 6 (below). Ritual depositions of animal bones were made in different kinds of pits and stone constructions. In the Iron Age settlement area of Skultorp in Västergötland a number of small limestone chests with lamb bones were found.



²⁰ Paulsson-Holmberg 1997; Carlie 2004.

²¹ Axelsson & Berglund 2005.

²² Vretemark 2004b.

burnt human bones and ceramics. There was an iron axe at the bottom of the pit. Around the pit, traces of a wooden structure were most probably left by an enclosure.²³ Partly because of the unusual composition of the finds and partly because of the combination of pit and enclosure adjacent to an open, communal space in the settlement, the whole was interpreted as a votive pit. Another votive pit in the same settlement contained an intact ceramic vessel with the remains of cereal grain, burnt cattle and sheep bones and unburnt horse teeth.²⁴ In the votive pits, the animal bones were, apparently, ordinary food waste—mainly bones from the meaty parts of cattle and sheep. With the exception of the incidence of human bones, the species composition did not differ between the votive pits and the settlement's other bone collections.²⁵ Rather than as fine offerings to particular gods, the depositions were interpreted as food offerings to supernatural beings that, as regards the wellbeing of the humans and their livestock, were important in daily life.²⁶

At Abbetorp in the parish of Väderstad in Östergötland, the remains of two Iron Age homesteads were investigated. The larger of these homesteads had a ritual area that had been made most use of between AD 400 and 600.²⁷ In the excavation towards the end of the 1990s, a little over one hundred very small circular hearths and a number of pits were found in the ritual area. The pits and hearths contained a lot of burnt and unburnt animal bones along with, amongst other items, crushed ceramics and shards from glass beakers. The zooarchaeological analysis showed that 70% of the bone fragments were cattle followed by (in decreasing order of importance) horse, sheep/goat and pig.²⁸ Largely corresponding with that observed at contemporaneous settlements in the vicinity, this distribution of species does not present an anomalous



Fig. 7. Animal bones occur in 80% of all Iron Age ritual deposits in Sweden. Bones from domestic animal are most common but there are also examples of offering pits with remains from wild animals such as the elk antler shown, found in Skultorp in Västergötland.

pattern. Thus, it cannot be maintained that special animal species were selected for the ritual meals. The archaeologists sketched out a scenario in which animals were led to this area to be slaughtered and butchered. The meat was prepared for meals at regular, annual, ritual celebrations and feasting. Food remains were then deposited in hearths or pits or next to the large stone blocks in the area.

Animal bones—important evidence of rituals

In this paper, I have sought to point out the complexity of several contexts of offerings in Iron Age Scandinavia in which animal bones are the most important element. A general analysis indicates that animal bones are found in around 80% of all depositions that are considered to be ritual (Fig. 7). Bones may be found alone or with, for example, ceramics, cereal grain, iron objects and millstones. The zooarchaeological material thus plays a key role not only in determining whether there is evidence of rituals, but also in identifying private ritual praxis in Iron Age societies.

Without meticulous analysis of the animal bones, important information would be entirely lost to us. Nonetheless,

²³ Berglund 2005, 80f.

²⁴ Berglund 2005, 92.

²⁵ Vretemark 2004c.

²⁶ Axelsson & Berglund 2005, 255.

²⁷ Lindeblad & Pettersson 2009.

²⁸ Sigvallius 2000.

this review shows that, working solely from the bones, absolute certainty is not possible in determining whether finds are evidence of rituals. The incidence of species in the zooarchaeological material does not seem to be systematic, this indicating that various principles governed how domestic animals were included in rituals. Only in combination with the context of the archaeological find can evidence of rituals be deduced. Consequently, interpretation must be on a case-by-case basis. In principle, anything that, at the time, had a symbolic value could be used as an offering. Ritual activity was sometimes associated with a special place, but could just as easily occur within the framework of daily chores.

Thus, when is it appropriate to interpret finds of animal bones as evidence of rituals? The review of the various examples shows that, both during on-site excavation and osteological analysis of animal bones, special attention should be paid to certain criteria. Within the Iron Age Scandinavian context, where any one or more of the following ten criteria relating to the find context or the composition of the bones are met, an interpretation as ritual deposition of animal bones should be considered a possibility:

1. Atypical placement of animal bones (for example, in water).
2. Specific combinations of finds in which animal bones are found with, for example, ceramics, millstones, iron implements, etc.
3. Depositions of entire skeletons or many bones from a single individual.
4. Depositions with specially selected anatomical parts, for example crania, jaws and foot bones.
5. A large percentage of intact bones that do not show signs of standard butchery.
6. A high percentage of horse.
7. Atypical incidence of species compared with waste from nearby settlements.
8. Incidence of unusual species or comparatively large amounts of game.
9. Presence of human bones outside grave contexts.
10. Atypical handling where bones are partly burnt or crushed.

To summarize, the conclusion that can be drawn from the material is that archaeological excavations obviously have yielded countless examples of combinations of animal bones and find contexts that indicate Iron Age rituals. There is no written material detailing these rituals. Thus, the zooarchaeological material is the only remaining evidence. Consequently, it is extremely important to evaluate these finds as unique evidence of ritual praxis and of a mindset that was central in everyday Iron Age life in Scandinavia. Without the animal bone finds, this sphere of life would remain hidden to us.

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Dans l'ombre du rite : vestiges d'animaux et pratiques sacrificielles en Grèce antique

Note sur la diversité des contextes et les difficultés de recherche rencontrées

Abstract

In all ancient civilisations, as well as in numerous contemporary societies, animals were implicated in many aspects of religion. Sacrifice and alimentary rituals regulated social life and animals underwent diverse treatments in accordance with particular cults. Zooarchaeological material constitutes direct evidence for animals that were slaughtered and often eaten in a sacred context. Also, the status of a departed person in life could be indicated by the faunal and vegetal funerary offerings that accompanied him or her to the grave.

Still, it is not possible to ascribe every zooarchaeological deposit showing unusual characteristics a religious significance, nor does all animal bone assemblages found in a sanctuary constitute the remains of a sacrifice. The interpretation must rest on the interaction between the archaeological context, the taphonomy and the iconographical and literary sources relevant for the particular society. The present article aims at exploring existing hypotheses concerning the zooarchaeological evidence by posing questions and confronting the Greek prehistoric and historical material, as ritual practices were neither static nor linear. This discussion brings to bear on the most recent discoveries, partly still unpublished.

Examination of the zooarchaeological evidence from 63 sites allows us to conclude that focus on a particular criterion can result in misinterpretations, as what was common practice in one community was not necessarily so in another. The definition of the actual length of every event is also paramount. Only a careful stratigraphic and zooarchaeological methodology, combined with a multitude of questions posed, will yield information precise enough to determine the species, reconstruct the practices and reformulate our questions.

Résumé

Dans toutes les civilisations antiques, mais aussi dans de nombreuses civilisations contemporaines, les animaux étaient impliqués dans plusieurs aspects de la vie religieuse. Étant donné que le sacrifice et les rituels alimentaires rythmaient la vie communautaire des populations passées, les animaux ont subi divers traitements selon les cultes pratiqués. Par conséquent, les restes osseux sont les vestiges directs des animaux abattus et, parfois, consommés dans un contexte sacré. De surcroît, les pratiques des offrandes funéraires végétales et animales signalaient, le jour de ses funérailles, la place élevée que le défunt avait occupé, de son vivant, dans la société.

Cependant, on ne peut attribuer au religieux tout dépôt osseux sortant de l'ordinaire, et au sacrifice tout assemblage faunique trouvé en contexte d'un sanctuaire. L'interprétation repose sur un faisceau d'indices tels que le contexte archéologique, l'étude taphonomique, la connaissance de l'iconographie et des sources littéraires sur le type de sacrifice qu'une communauté a choisi. Cet article essaie d'illustrer, dans le cadre du monde grec antique, les hypothèses existantes, de suggérer des interrogations, même sans les formuler toujours explicitement, de confronter les données des civilisations préhistoriques et historiques au pays des Hellènes, car les pratiques n'étaient ni stables ni linéaires. Un tel débat exige une réflexion sur les découvertes les plus récentes, encore non publiées pour une large partie d'entre elles. C'est la particularité de cet article.

La confrontation des données issues des 63 sites nous a conduit à une certitude. En privilégiant un critère, on prend le risque de la confusion. Une pratique courante dans une cité ne l'est pas forcément dans une autre. La durée définie de chaque événement est aussi cruciale. Seul l'usage de méthodes fines en stratigraphie et en archéozoologie, et l'interrogation permanente, permettent d'obtenir des informations avec une grande précision pour qu'on puisse déterminer les espèces, restituer les pratiques et reformuler les questions.

Introduction

S'appuyant sur les sources (littéraires, iconographiques, épigraphiques, et archéologiques) disponibles, les études académiques concernant les pratiques sacrificielles en Grèce antique se sont multipliées.¹ Les chercheurs se réfèrent aux festins, au calendrier religieux, aux sacrifices constants et occasionnels, au processus des cultes, à l'aire et aux lieux adéquats, aux personnes impliquées (sacrifiant, sacrificateur), aux victimes choisies, aux prix des espèces à sacrifier, aux instruments et aux vases appropriés, aux parts de viande prélevées

¹ Les données historiques abordent surtout le cas de la cité grecque, le monde minoen-mycénien et les périodes hellénistique et impériale faisant des sujets à part.



Fig. 1. Carte des principaux sites archéologiques mentionnés dans le texte, datant du Néolithique Récent à l'âge du Bronze Récent (petits carrés) et de l'âge géométrique à l'époque impériale (petits ronds). Les petits triangles renvoient aux grottes qui ont relevé des vestiges pouvant refléter du rituel ou du sacrifice. Réalisation : L. Boloti.

sur l'animal rituellement abattu, au découpage et à la distribution de ces morceaux, aux repas sacrificiels, aux banquets, à la commensalité, à la participation des hommes et aux espaces interstitiels réservées aux femmes, à la dimension sacré, au statut des participants, au concept de la cohésion sociale à travers le banquet ou enfin à l'état des adorateurs, à la valeur du sacrifice aux puissances supérieures invoquées.

Cependant, la recherche sur les rituels, résultant des vestiges osseux dans le sein de diverses communautés du sud de la péninsule balkanique et de la mer Égée, durant la préhistoire et l'antiquité, est, à présent, moins bien explorée.² Les offrandes animales funéraires sont les mieux recensées.

Par conséquent, l'objectif de cet article est de mettre en évidence certains aspects de la parenté homme-animal, ou tout au moins du traitement du corps animal, domestique dans la majorité des cas, en se servant des restes biologiques découverts, et en s'appuyant sur ce que nous apprennent les sites récemment fouillés et des rapports non encore publiés (Fig. 1).³

² Sur la valeur des travaux ostéologiques et un compte rendu des analyses réalisées jusqu'aux années 1990 voir Hägg 1998.

³ La présente étude est surtout basée sur ma propre expérience. J'ai eu le

Éléments de méthode et difficultés rencontrées

Puisque tout os trouvé dans un lieu désigné comme sacré, un sanctuaire ou une nécropole, n'est pas issu de pratiques rituelles, il nous a paru utile d'envisager les limites méthodologiques, et de dégager les éléments qui peuvent nous orienter vers une restitution des pratiques rituelles, en tenant compte des limites que le matériel archéologique nous impose. On procédera par l'étude des cas.

privilege d'observer et, dans plusieurs cas, d'étudier les matériaux osseux discutés ici. Ainsi, les constatations et les erreurs sur le matériel osseux proviennent d'une même personne. Les comparaisons sont limitées aux besoins du texte. Que tous les directeurs de fouilles et amis, mentionnés dans le texte et les notes, reçoivent ma reconnaissance pour l'excellente collaboration et la possibilité qu'ils m'ont offert de mieux comprendre nos ancêtres et nous-mêmes. Les organisatrices du congrès et les éditeurs ont eu la gentillesse de relire ma communication. Je les en remercie vivement.

Établir le cadre géographique et chronologique des remblais

Les conditions des pratiques rituelles requises pour une communauté dans le temps et l'espace ne sont pas forcément valables pour une autre communauté. Ainsi, les critères scientifiques pour une documentation stratigraphique et pour la différenciation du dépôt primaire au dépôt secondaire sont imposés. La précision stratigraphique paraît déterminante pour l'interprétation des données.

Exemples

La stratigraphie d'ossements issus des sanctuaires de sommets⁴ reste extrêmement problématique.⁵ Bien que, jusqu'à présent, il y a peu de communications sur le matériel osseux recueilli,⁶ les assemblages collectés aussi bien dans le sanctuaire minoen installé sur la colline Ag. Georgios sto Vouno qui jaillisse dans le paysage dans la partie méridionale de l'île Cythère et dans celui d'Hermès et d'Aphrodite à Symi dans la région de Viannos, en Crète, le prouvent. Le mode de sédimentation⁷

dépend de l'altitude,⁸ de l'inclinaison des pentes, de l'érosion, des changements que le vent et la pluie apportent, des déformations causées par la construction d'édifices postérieurs au dépôt des offrandes.⁹ Finalement, seules les inclusions dans les failles et les cavités du substratum rocheux, ont retenu des couches sédimentaires intactes.

Le sanctuaire de Symi qui couvrait une surface de 1,7 hectare, se situe sur les pentes sud du mont Dicté, au sud-est de l'île. Les pèlerins fréquentaient ce lieu montagnard (altitude 1130 m) pendant 23 siècles, du 1700 av. J.-C. au III^e siècle apr. J.-C.¹⁰ Les observations des fouilleurs ont conduit à la conclusion que seule une section des sédiments, à l'endroit du culte en plein air de la première période Palatiale (1600–1425 av. J.-C.), ne fut pas perturbée. On dénombre 4231 fragments parmi les vestiges osseux collectés dans l'espace de ce péribole et de la voie sacrée, chiffre trop limité si on le compare avec l'étendue de 0,3 h. déjà fouillée. Les restes se répartissent en 99,20% des caprinés, l'aegagre y compris, et les bovidés.¹¹ 121 coquilles de mollusques bivalves et gastéropodes sont issues du même enclos.

Les niveaux archéologiques sur la colline d'Ag. Georgios à Cythère (altitude 350 m) couvrent la période du Minoen Moyen IA au Minoen Récent IIIB (ca 2100–1200 av. J.-C.) et notamment le Minoen Moyen III–Minoen Récent I (ca 1700–1450 av. J.-C.).¹² Suivant les indications minutieuses fournies par les fouilleurs,¹³ 58,30% des restes osseux, qui comportaient des mammifères, des oiseaux et des poissons,¹⁴ se trouvaient dans des sédiments remplis de la céramique minoenne uniquement (*Charte 1*). A noter une donnée peu

⁴ La majorité des sanctuaires de sommet en Crète apparaissent durant la période du Minoen Ancien, ou au début du Minoen Moyen ex. le sanctuaire sur le mont Juktas, à 13 km de Cnossos, semble avoir été bâti vers 2100 av. J.-C. Leur déclin a eu, sans doute, lieu durant le Minoen Récent (Jones 1999). Les enclos sacrés sur le sommet des collines, près des palais, recevaient toutes sortes d'offrandes pendant quelques 500 ans environ.

⁵ La distribution des restes (cartographie) dans les couches des grottes—sanctuaires, dédiés en des nombreux cas aux Nymphes et au Pan, est beaucoup plus floue. Quels que soient les efforts des chercheurs, de nombreux facteurs, comme les altérations dues aux agents physiques et anthropiques, ou l'utilisation humaine de la grotte (lieux d'enterrement, enclos pour les troupeaux etc.), sans compter les fouilles clandestines, rendent vain tout travail minutieux. L'étude du matériel des grottes des Nymphes à Lehova en Péloponnèse du nord (région de Corinthe), de Kourita à Paliambela (Acaranie), et d'une partie de la grotte des Nymphes Leivithrides près du village d'Ag. Triada (sur la montagne Hélicon en Béotie), toutes fouilles de l'Éphorie de Paléanthropologie et Spéléologie de la Grèce du Sud (L. Kormazopoulou et I. Ziguiri, M. Hatzioti et l'Éphorie des Antiquités Dr V. Vassilopoulou ont été les directeurs de fouille de chacune des ces cavités), a prouvé qu'on ne peut étaler nos remarques et analyses statistiques respectivement que sur une marge large du temps (période archaïque–impériale). Pour établir l'aire culturelle, la recherche s'est basée sur l'étude des offrandes déposées, ainsi que des os (osselets transformés en objets pieux, Trantalidou & Kavoura 2006–2007), plutôt que sur la répartition anatomique et le spectre faunique.

⁶ Jones (1999, 12) mentionne l'existence de cendres dans 11 sanctuaires de sommet, et de matériel osseux dans 3 d'entre eux, sur les 20 qu'il a recensés. Nous avons répertorié une douzaine de sanctuaires dont les rapports sur la faune se limitent à 2 à 3 lignes : Peatfield 1992, 6 sur Atsipadhes ; Davaras 1974, 21 sur Vrysinas dans la région de Réthymnon ; Karesou 1975, 334 ; 1976, 410 ; 1981 sur Juktas.

⁷ Il en va presque de même avec les modalités de la préservation des os exposés dans l'air durant une longue période l'enfouissement était lent. Au sanctuaire d'Hermès et d'Aphrodite, outre la décomposition liée aux propriétés physico-chimiques du sol, le vent, la pluie, la grêle et la neige ont craquelé et dissout ce matériel bio-archéologique.

⁸ L'enfouissement est plus lent aux sommets des collines isolées.

⁹ Sur le sommet d'Ag. Georgios deux chapelles furent construites. Au sujet de ce processus complexe, signalons aussi le rôle des animaux fouisseurs.

¹⁰ Fouilles conduites par l'Éphore Honoraire Dr A. Lebessi (Lebessi 1985 ; 2002 avec toute la bibliographie précédente).

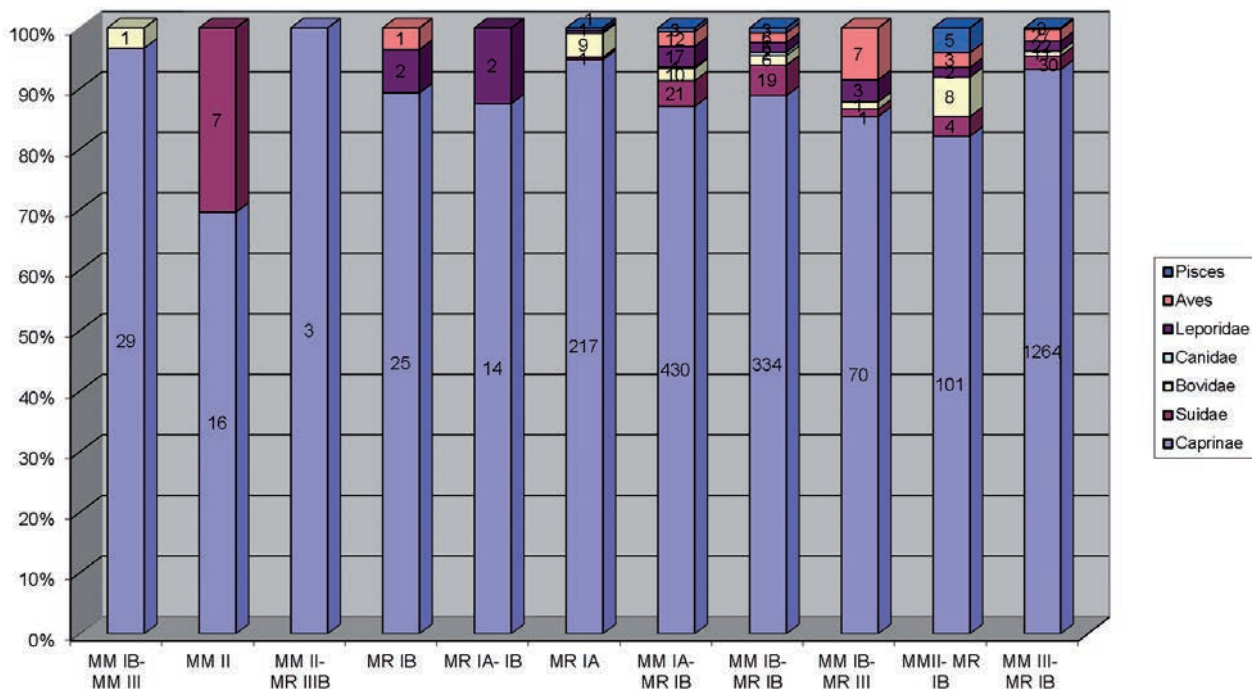
¹¹ En détail, chèvres 166 fr., NMI 13 ; moutons 81 fr., NMI 9 ; chèvres ou moutons 3874 fr., NMI 15 ; chèvre aegagre 73 fr., NMI 1 ; bovidés 31 fr., NMI 1 ; chien et petit cervidé 1 fragment chacun, Trantalidou, étude en préparation.

¹² Fouilles conduites par l'Éphore Honoraire, Dr J. Sakellarakis (1996).

¹³ D'après la stratigraphie qu'une des fouilleurs, Dr I. Tournavitou, Professeur associée, Université de Thessalie, nous a transmis.

¹⁴ Trantalidou 2013. Parmi les 4703 fragments catalogués en détail (le recensement contient la liste des 23 unités chronologiques, la liste des espèces, pourcentages et NMI y compris), 2744 provenaient des entités archéologiques qui n'étaient pas mélangées par les couches superposées. Les 2744 spécimens se répartissaient ainsi : 88 ossements provenant des chèvres, 110 des moutons, 2315 des chèvres ou des moutons (les caprinés totalisent 2513), 83 de suidés, 46 de bovidés, 3 des chiens, 55 des léporidés, 55 des oiseaux, 15 des poissons (familles des *Sparidae*, *Coryphaenidae*, *Zeidae*, *Mugilidae*), auxquels s'ajoutent 2 fragments des muridés, introduits fortuitement dans le site et des coquilles de mollusques.

Charte 1. Ag. Georgios en Cythère, lentilles de terre remplies de la céramique minoenne uniquement, restes osseux.



commune : l'avifaune¹⁵ regroupait 30 os du genre *Gallus*,¹⁶ issus des lentilles de terre non remaniées. L'oiseau semble absent aussi bien dans l'iconographie égéenne d'âge du Bronze¹⁷ que dans les sites des dates similaires. Il n'est pas

signalé non plus dans les couches de la même période de la grotte Kataphygadi, située sur le sommet de Mermigari, dans la partie ouest de l'île de Cythère.¹⁸ Toutefois, il fut reconnu sur un gem du Minoen Moyen¹⁹ et fut signalé dans peu de

¹⁵ Les espèces les plus fréquentes étaient *Alectoris graeca* (9 fragments), *Columba livia* (11 fragments) et *Gallus* sp., probablement de *Gallus gallus domesticus* (50 fragments).

¹⁶ Originaires du Sud-est asiatique, les coqs étaient plutôt rares durant l'antiquité classique. Dans la littérature grecque, les premiers qui aient signalé le coq furent Théognis de Mégare (actif vers 540 av. J.-C.) et Hérodote, presque un siècle après (Thomson 1936, 33–34). Aristophane dans les *Oiseaux* (*Aves* 277, 483 et 708), laisse entendre que ce sont les Perses qui avaient fait venir le coq en Méditerranée. Actuellement il est presque partout admis que le coq a été domestiqué vers la fin du 3ème millénaire, aussi bien dans la vallée de l'Indus que dans la Mésopotamie (Zeuner 1963, 443–444 ; Coltherd 1966). Dans la vallée d'Euphrate moyen, les plus anciennes couches des sites Sweyhat (2400–2200 av. J.-C.) et Tell Hadidi (1900–1350 av. J.-C.) ont livré peu de restes de coq. Cependant, les spécimens sont beaucoup plus nombreux dans les sédiments récents (Buitenhuis 1983, 140–141 ; Reese *et al.* 1995, 202). Les sites Lidar Höyük, Yarikkaya, Korucutepe, dans les Hauts Bassins d'Euphrate ont fourni des os du coq de l'âge du Bronze Ancien, quoique ces formations soient tenues perturbées. Dans les couches datées du 1500 au 1200 av. J.-C. les restes sont identifiés avec sûreté (Boessneck & von den Driesch 1974, 109 et 112 ; Mourer-Chauviré 1981, 601 ; von den Driesch & Boessneck 1990, 114–115 ; Reese *et al.* 1995, 202).

¹⁷ Vickery 1936, 66–69 ; Masseti 1997 ; Pollard 1977, 141–148.

¹⁸ Kataphygadi est une cavité en pente près du hameau Rhizes, district de Mylopotamos à Cythère (alt. 476 m). Signalée au XIXe siècle (Leonhard 1899), elle apparaît dans la liste du Bulletin de la Société Spéléologique de Grèce de l'année 1953 (n° de la caverne 316), et dans des travaux archéologiques (Petrochelios 1984, 63–64, 92 et 145 ; Tsaravopoulos 2009) et paléontologiques (Bartsiakos 1998, 33 et 90). Elle vient d'être fouillée récemment par l'Éphorie de Paléanthropologie et Spéléologie de la Grèce du Sud (responsable Dr K. Trantalidou, début des fouilles en 2011). L'archéologue V. Milidaki, qui étudie la céramique propose deux périodes possibles d'occupation : Minoen Récent IB/IIA et Helladique IIIB/C, suggérant différents aires d'influence (la Crète et le Péloponnèse).

¹⁹ Evans 1895, [342], 73, fig. 65 ; Vickery 1936, 68 ; Reese *et al.* 1995, 201. Evans (1895), Glotz (1923), Vickery (1936), Wace (1949, 106), Vermeule (1964, 204) et autres pensent que Minoens et Mycéniens ont du connaître le coq. Hood (1971, 91 et 157), en revanche, suggère que, si l'oiseau d'ordre des galliformes a été introduit dans quelques sites de la mer Egée durant l'âge du bronze, il s'est très vite éteint comme espèce. En Égypte, l'oiseau *Gallus gallus ferrugineus* Gm. (coq doré) ou sa forme domestique, figure à la fin du IIIème jusqu'à la fin du IIème millénaire d'une façon sporadique. Les manifestations artistiques connues sont un graffiti sur la pierre taillée d'un temple à Thèbes daté vers 1840 av. J.-C., la gravure de la tête sur un vase « métallique » (peinture murale dans le tombeau du Rekmara, officier de Thèbes sous Thoutmôsis III

sites, dont les niveaux étaient bouleversés.²⁰ En s'appuyant sur la stratigraphie, l'étude de la faune indique la présence fortement controversée du coq domestique qui aurait pu être introduit par les marins et les commerçants qui sillonnaient la Méditerranée orientale.²¹ La même espèce, si les notes sur la stratigraphie sont bonnes, apporte des renseignements sur les échanges et le commerce durant l'époque minoenne (produits de luxe, animaux de prestige) ainsi que sur le rituel et sur la saison durant laquelle les sacrifices ont eu lieu.²² La morphologie des os et surtout l'observation macroscopique sur la formation du tissu osseux de l'os médullaire ont permis de déterminer l'éventuelle saison de ponte et de suggérer que les cérémonies ont eu lieu durant l'été.²³

La différence des assemblages fauniques d'une phase de culture similaire peut orienter la recherche vers une divergence des coutumes. Dans cette circonstance, seule la lecture soigneuse de la stratigraphie permet d'exclure des infiltrations venues des niveaux de surface (processus post-déposition-

nels). Les nouvelles fouilles sur les pentes de la colline d'Ag. Georghios entreprises en 2011 par l'Université de Péloponnèse vont dissiper nos doutes.

Établir le contexte archéologique du site en se permettant de reconnaître les traits caractéristiques des zones d'habitat, d'artisanat ou des aires culturelles

L'apport de l'étude archéozoologique sur l'identification des lieux de culte est essentiel.

Exemple (a)

Les fouilles systématiques sur la colline de Xobourgo sur l'île de Ténos dans les Cyclades ont révélé que la cité antique était entourée d'une muraille large de 2,50 m.²⁴ La construction de ce mur cyclopéen a dû avoir lieu entre la fin de l'âge du Bronze (fin du XII^e siècle av. J.-C.) et la période protogéométrique. Au milieu du VI^e siècle, quand la cité se développa, un autre mur fort fut érigé pour mieux protéger la ville. Un complexe de 32 fosses à cendres²⁵ et une eschare²⁶ pleine de cendres furent découverts devant le mur cyclopéen et, pour la plupart, au-dessous des fondations de la muraille archaïque. Tout le contexte archéologique fait penser à des commémorations de défunts, et à des rites en plein air, datant du Xe au début du VII^e siècle av. J.-C.²⁷

(1504–1450 av. J.-C.) et sur une coupe en argent du règne du Séthi II (1200–1194), ainsi que la figure entier d'un coq peint sur un tesson trouvé pendant la fouille du tombeau de Toutankhamon et daté vers 1350), Carter 1923, 1 ; Lowe 1934 ; Zeuner 1963, 444–445 (selon le chercheur l'oiseau disparaît par la suite et revient durant le règne des Ptoléméens) ; Thompson 1936, 33–44 ; Coltherd 1966, 219 ; Janssen & Janssen 1989, 48 ; von den Driesch & Boessneck 1990, 114–115 ; Germond & Livet 2001, 66.

²⁰ L'oiseau fut identifié avec certitude à Lerne V (Helladique Moyen, Argolide, Péloponnèse) et fut considéré comme une des plus anciennes présences du coq en Europe (Gejvall 1969, 49 et 58). Cependant, la position stratigraphique de l'os fut critiqué (Mourer-Chauviré 1981, 601). Dans les grottes Kitsos, Kalythies et Trapeza, où des os de coq furent identifiés, les intrusions sont certaines. À Kommos, un port minoen en Crète du Sud, 2 os de poule datent du Minoen Moyen (Reese 1995 *et al.*, 200), mais la stratigraphie semble perturbée. À Tirynthe (Argolide, Péloponnèse), parmi les 60192 ossements répertoriés, 91 proviennent d'oiseaux, et 20 appartiennent au *Gallus gallus domesticus*. Ils proviennent des six couches datées dès l'Helladique Ancien (ca 2400 av. J.-C.) à Helladique Récent III (ca 1050 av. J.-C.) (von den Driesch & Boessneck 1990, 114–116) et étaient probablement intrusifs.

²¹ Les comparaisons ostéométriques sont faites avec des données actuelles (collection de référence à Wiener Laboratoire de l'École Américaine des Études Classiques à Athènes), celles issues de sites en Égypte de l'époque impériale (Abu Sha'ar, colline Claudianus etc Lentacker & van Neer 1996, table 2 ; Hamilton-Dyer 1997, 326–329) et de Sagalassos (cité d'Asie Mineure, située sur les contreforts du mont Taurus, à une altitude comprise entre 1450 et 1700 m, qui a livré un échantillon large d'avifaune, datant du I^{er} au VII^e siècle ap. J.-C., de Cupere 2001 ; de Cupere *et al.* 2002, 1587–1797).

²² Dans les sanctuaires de sommet, les figurines d'oiseaux (des pigeons), offrandes à la divinité, sont considérées comme l'épiphanie des dieux. Durant l'antiquité classique, le coq évoquait, selon les situations, des symboles érotiques (cadeaux d'amour), de fécondité et de santé (Ar. *Av.* 705–707 ; Boardman 1975, 215, sur l'iconographie des vases attiques de l'époque archaïque) ; il était lié aux rites funéraires, et il constituait une nourriture de luxe.

²³ Les observations sont basées sur les études suivantes Lentacker & van Neer, 1996, 488–496 ; van Neer *et al.* 2002, 123–134.

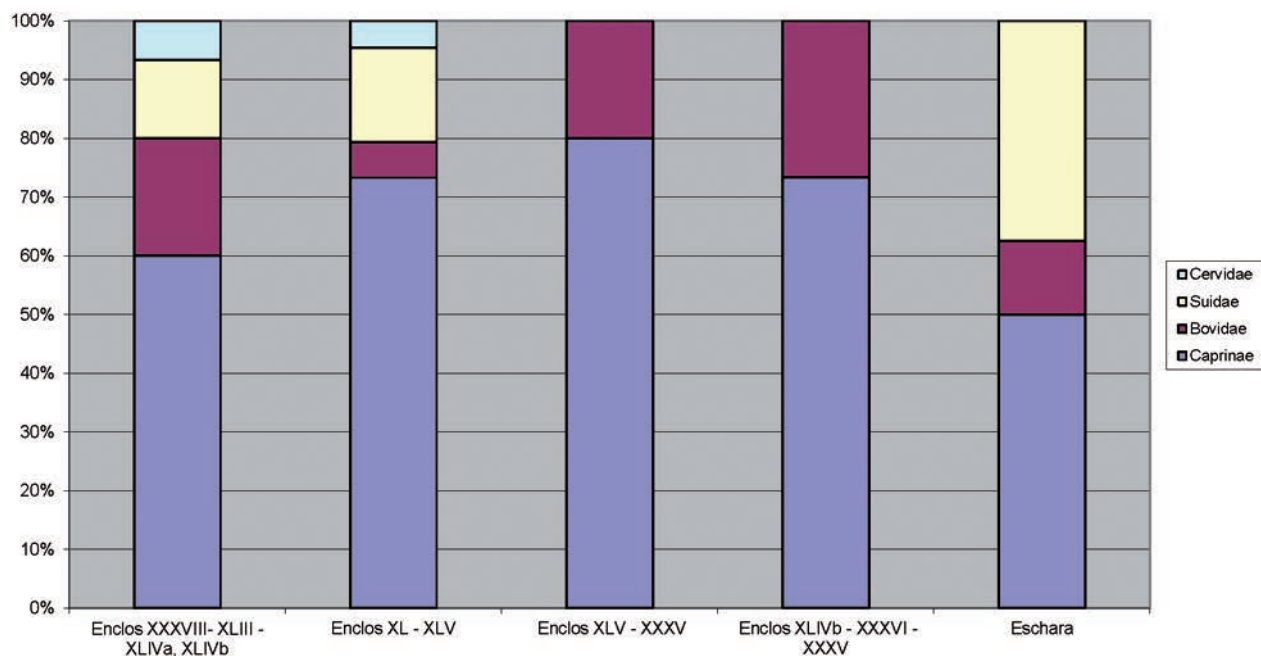
²⁴ Fouille conduite par le professeur de l'Université d'Athènes, N. Kourou. La colline se situe dans la partie sud de l'île et elle est bien visible du port actuel.

²⁵ La profondeur de ses fosses creusées dans le schiste atteinne le 0,50 m et la largeur 0,40 à 1,50 m. La majorité des fosses était remplie des cendres, des tessons et d'os d'animaux brûlés et de galets, en couches successives. L'une d'entre elles contenait juste du sable. Certaines fosses avaient des piles de galets, comme marqueurs des tombes (Kourou 2002). Selon le fouilleur, trois fosses contenaient des os humains incinérés. Sur la vénération des ancêtres, voir aussi Lambrinoudakis 1988, 234–246 et 271 (site de Grotta à Naxos, enclos funéraires, couches de bûchers sans reliques humains, bûchers encerclés de pierres, présence de galets, éventuellement liés à des rites de purification, etc.). Notons que sur l'îlot de Dhaskalio, le plus important des sites de la période Cycladique Ancienne, haut-lieu symbolique de la préhistoire Égée, la présence des galets délibérément placés dans une structure arrondie au sommet (alt. 38 m) de Dhaskalio (Renfrew *et al.* 2009, 39), suggère une pratique rituelle très ancienne en Méditerranée orientale. Mêmes éléments dans le sanctuaire d'Anemospilia situé sur les pentes nord du Mt Juktas (alt. 440 m, MM II/IIIa, 1700–1650 av. J.-C. ; fouilles de Dr J. Sakellarakis).

²⁶ Le tout s'étend sur un espace de 150 m. L'eschare est le type de l'autel établi directement sur le sol. Selon les textes et certains experts, elle est liée au culte des héros ou des divinités chthoniennes (van Straten 1995, 165–167).

²⁷ Kourou 2002, avec toutes les indications sur la fouille, l'interprétation archéologique et la bibliographie précédente.

Charte 2. Xobourgo, Tenos, lot osseux provenant de Terrasse AA.



Le lot osseux provenant de cette Terrasse (nommée AA) comprend 2735 fragments dont 1713 sont, à présent, étudiés.²⁸ De ces derniers 10% provenait des ces petites fosses et, le reste, des enclos (périboles) qui entouraient les fosses (Charte 2). L'assemblage faunique contenait outre les animaux domestiques²⁹ qui ont été consommés,³⁰ un fragment d'os de lièvre, un fragment d'oiseau et un de tortue.³¹ Le fait que le nombre des espèces est limité,³² que les os brûlés (2,45% de l'ensemble) proviennent constamment de l'eschara, des lentilles de cendres à l'est de l'eschara ou des fosses, et que les os

exposés aux flammes (carbonisés ou calcinés) sont presque les mêmes,³³ tend à confirmer l'hypothèse d'un lieu sacré.

Pourtant, dans le lot, apparaissent 102 extrémités proximales et distales sciées des métapodes d'herbivores, du cerf élaphe inclus dont les os furent introduits dans l'île en tant que matière première. Ces sous-produits, souvent sciés, sont les déchets d'un atelier de fabrication d'objets et d'outils en os, peut-être des manches de couteaux, car des scories en métaux sont aussi présentes. L'ensemble peut provenir de la même Terrasse, et, dans ce cas, sa fonction fut multiple,³⁴ ou d'un endroit voisin, et dans ce cas, une partie du remblai aurait été déposée, durant l'époque archaïque, pour abriter les bûchers et ériger au-dessus un mur de défense. À la suite de cette éventualité, les déchets de fabrication, ainsi que les os épars signalés, n'ont pas de connexion avec des cérémonies religieuses. Toutefois, ils nous instruisent sur des activités industrielles non signalées, jusqu'à aujourd'hui, dans ces îles.

²⁸ Trantalidou 2011.

²⁹ Les caprinés forment 70,75% de l'ensemble recueilli, les fragments des bovidés 14,52% et les suidés 11,99%. Le lot comportait des fragments récents, qui ont été éliminés du traitement statistique. On doit ajouter un os de chien. Le nombre des coquillages est limité.

³⁰ Les traces observables renvoient au fait que toute la procédure de l'égorgeage à la découpe a eu lieu sur place ou dans un endroit pas trop éloigné de la Terrasse en question. Pour l'instant, il m'est difficile de dire s'il s'agit d'un partage de nourriture avec les défunts. Les structures et le mobilier pointent toutefois vers cette direction.

³¹ La carapace de la tortue ne porte pas de trace. Les chéloniens ont pu mourir pendant leur hibernation.

³² Pourtant, les analyses statistiques démontrent que ce fait est valable dans tout site sur les îles Cycladiques (et d'autres de la mer Égée), aussi bien durant la préhistoire que durant les périodes historiques.

³³ Il s'agit des fragments : (a) d'omoplate, des tibias et des métapodes des bovidés, (b) des fragments du crâne, la cheville osseuse y compris, d'humérus, de radius (la pièce la plus fréquente)—d'ulna, des vertèbres et côtes ainsi que du tibia des caprinés. Un seul fragment de fémur et une première phalange furent aussi énumérés, (c) des fragments du crâne, d'ulna et des extrémités de suidés.

³⁴ La petite fosse remplie de sable pourrait aussi être connectée avec un atelier de fabrication d'outils.

Exemple (b)

Dans la cité d'Érétrie, sur la côte ouest de l'île Eubée, le spectre faunique de la couche géométrique (2^e moitié du VII^e siècle av. J.-C.) observée dans l'aire du sanctuaire d'Apollon et dans l'Aire sacrificielle au nord du temple d'Apollon, a permis de mettre en évidence un traitement différentiel lié à l'exploitation des caprinés, qui totalisent 80% de 100 restes déterminés.³⁵ L'autel et les foyers, placés à l'entrée du temple et destinés à la cuisson et à la consommation des morceaux d'animaux immolés, ont fonctionné de façon complémentaire.

Dans la partie nord de la même cité, lors de la fouille d'un puits près de Sébasteion, au-dessous d'une couche d'ossements d'animaux divers, les restes osseux d'un minimum de 26 chiens, sans traces de découpe, de tout âge et de toute stature, ainsi que des douze nouveau-nés humains, datés, grâce aux pièces monétaires qui les accompagnaient au début du III^e siècle av. J.-C. ont été dégagés.³⁶ Cette découverte rejoint celle du puits G5:3 dans l'Agora d'Athènes (dans la partie nord d'Agoraios Kolonos) qui a été scellé en l'an 150 av. J.-C. Le puits³⁷ comportait des restes humains d'un homme adulte, d'un enfant de 11 ans et de 450 fœtus et nouveau-nés, lesquels étaient accompagnées d'au moins 150 chiens de tout âge et de toute stature, du II^e siècle av. J.-C.³⁸ Parmi les différentes interprétations proposées (guerres, famines, sièges etc.), l'une semble plus plausible ; le choix de ne pas inhumer les tout-pe-

tits dans les lieux d'enterrement des autres citoyens.³⁹ Durant la fête religieuse des Amphidromia, des rites de purification se tenaient. Apparemment, les victimes qui ont absorbé toute impureté étaient les chiens qui furent éliminés après la cérémonie d'agrégation-expulsion (mort naturelle et civile).

Signalons que le caractère singulier d'un dépôt d'ossements d'animaux ne suffit pas à faire de lui un lieu de cérémonies. Durant la fouille d'un domaine rural à Mégali Kypsa de Kassandra sur le bord du golf Thermaïque, en Chalcidique, bâti vers 400 de notre ère et servi jusqu'au VIII^e siècle, un jeune adulte camélidé fut trouvé dans un puits d'une profondeur de 3.05 m.⁴⁰ L'animal a dû être posé après le séchage du puits et le déclin de la ferme. On peut penser à un animal de transport et de commerce, espèce importée et peu commune, pendant la période byzantine.

Assurer la validité de l'échantillon d'ossements

La récolte systématique, le tamisage et la qualité d'enregistrement (sans exclure les esquilles, les os plats ou courts, pratique envisagée par nombre des chercheurs) peuvent nous aider à parvenir à des résultats concluants. A ceux-ci, il est important d'associer les structures et le mobilier aux restes fauniques.

L'étude méthodique des ossements dans les contextes stratigraphiques (lots) différents d'Héracléon à Thasos,⁴¹ a établi que ni l'interdit du sacrifice de la chèvre et du porc ni les offrandes de type holocaustique,⁴² étaient toujours observés

³⁵ 740 vestiges osseux sont décrits dans le secteur mentionné (Chenal-Velarde 2001, 25–35 ; Chenal-Velarde & Studer 2003, 217–219 ; Studer & Chenal-Velarde 2003, 175–185). Dans l'un des foyers, figuraient quelques restes d'un chien intentionnellement brûlé. Dans ce remplissage, un métatarsien portait de traces de dépouillement (Chenal-Velarde 2001, 26). Le temple d'Apollon Daphnéphoros se situe à une cinquantaine de mètres de l'Aire sacrificielle, un sanctuaire d'une autre divinité, peut-être Artémis. Il est attesté que Artémis-Hécate, recevait des chiens sacrifiés (Chilardi 2006 sur l'immolation des deux chiens retrouvés dans un puits avec des éléments d'autres animaux dans l'île d'Ortigia en Syracuse ; Trantalidou 2006, 100–105 et 114–117 sur les sacrifices des chiens en Grèce antique aussi bien envers les dieux et envers les humains en tant qu'offrandes funéraires).

³⁶ La consommation du chien est attestée dans différents contextes chronologiques (dès l'Helladique Moyen à l'époque hellénistique) et spatiales (par ex. dans des structures domestiques) d'Érétrie (Chenal-Velarde 2006, 24–31).

³⁷ La coutume semble assez répandue, car dans la cité de Messène dans le Péloponnèse sud, dans un monument funéraire de l'époque hellénistique des inhumations de chiens accompagnaient des nouveau-nés enterrés dans des pots. En même temps, dans un puits dans l'Agora de cette cité, daté du III^e–II^e siècle av. J.-C., 264 jeunes individus, accompagnés des squelettes des chiens et de la poterie fragmentée, furent découverts. Les jeunes individus puissent être des inhumations secondaires déposées dans un puits qui continuait à recevoir des enfants morts pendant l'accouchement (Bourbou & Themelis 2010, 111–128).

³⁸ Snyder 1999 ; Liston & Papadopoulos 2004, 22–23. Là aussi les chiens ne portaient pas de traces, à part l'oxydation verte causée par la présence des monnaies en bronze.

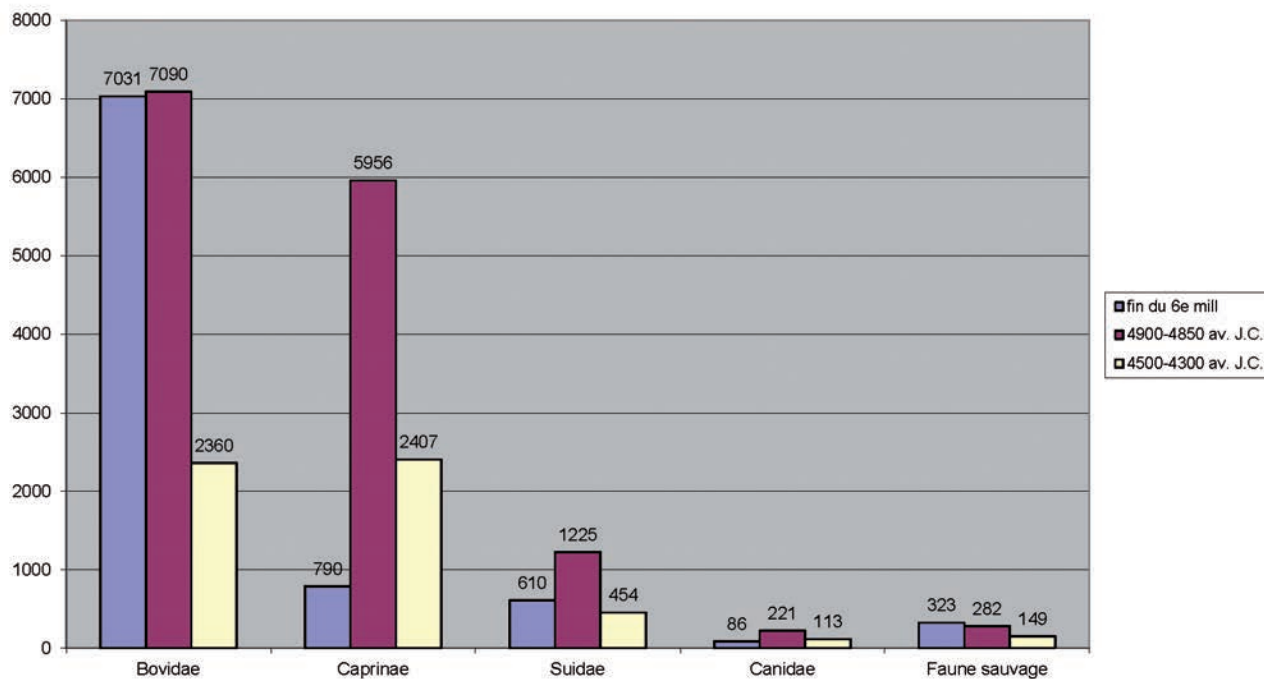
³⁹ Rotroff 1999, 285. Les nouveau-nés n'étaient pas encore acceptés dans le foyer familial et dans la cité. Selon les écrivains grecs, c'était le 5^e, le 7^e ou le 10^e jour qui suivait leur naissance que la fête d'Amphidromia se célébrait (Hamilton 1984 ; Paradiso 1988). Les enfants illégitimes, eux-aussi n'étaient non plus acceptés. Dans le cas de l'homme adulte enseveli, on peut penser qui fut le médiateur, mais cela est hors du sujet qui nous préoccupe.

⁴⁰ Fouille de sauvetage exécutée par la 10^e Éphorie des Antiquités Byzantines, sous la responsabilité de l'archéologue I. Papagellos (Papagellos 2011). Il s'agissait d'un animal jeune adulte (toutes les épiphyses furent soudées), probablement mâle, orienté ouest-est dans le puits d'un diamètre de 3 m. L'examen fut effectué sur place par K. Trantalidou (Août 2007). Sur la bête gisante sur son côté gauche, on n'a pas pu observer des traces de mise à mort, de découpe ou des cassures causées lors d'une chute (Durant la période ottomane le transport des produits à dos des chameaux était plus commun). D'après le fouilleur, l'animal fut de nouveau enseveli. Des animaux solitaires, déposés en entier et retrouvés en connexion, sont souvent signalés lors des fouilles, par exemple le squelette d'un bœuf retrouvé sans traces, dans une fosse à Athènes (période impériale, fouille près du bâtiment du Parlement actuel, 3^e Éphorie des Antiquités Préhistoriques et Classiques, responsable l'archéologue G. Kabbadias, examen sur place par K. Trantalidou). Le matériel est déposé dans les locaux de l'Éphorie de Paléanthropologie-Spéléologie de la Grèce du Sud. Sur des squelettes de chevaux dans des puits voir Kosmetatou 1993.

⁴¹ des Courtils *et al.* 1996, 799 ; Columeau 2000, 158.

⁴² En se fiant sur les renseignements textuels, la double nature héroïque et divine, Héraclès aura pu être vénérée (des Courtils *et al.* 1996, 799).

Charte 3. Habitat néolithique du Promachon, bâtiment souterrain, l'ensemble de la faune domestique et sauvage.



au fil du temps et dans les diverses structures architecturales (deux temples successifs, puits, hestiatorion, autel rupestre).⁴³

Définir les caractéristiques particulières de l'assemblage faunique

Les espèces animales, le sexe, les tranches d'âge, la sélection des parties du corps (des morceaux) et leur distribution ou position éventuelle dans l'espace, constituent des données pertinentes pour l'analyse d'un rituel.

⁴³ Chacun de 6 lots dégagés évoque une pratique différente. Citons deux exemples : (a) Dans le dépôt de l'aire sacrificielle, 3e quart du VIe siècle av. J.-C., les 235 restes fauniques comprenaient du mouton et du bœuf, qui correspondaient à 8 et à 2 animaux respectivement. Le 2.6% des os du mouton étaient brûlés et les traces de boucherie atteignaient le 21.7%. Parmi les ossements du bœuf, aucun reste brûlé n'est signalé. (b) En revanche, différentes étapes du traitement des moutons et quelquefois des bovidés (dépouillage, dépeçage, désarticulation et décharnement- radius pour le mouton, mandibules pour le bœuf) ont été répertoriées. Dans les restes fauniques issus de la « favissa », associés à de la céramique du IVe siècle av. J.-C., 5 moutons, 4 chèvres (la tête, le rachis et les ceintures présentaient des traces de découpe bouchère, les métapodes « déchets de découpe »), peu de fragments de bœuf et 4 porcins (le squelette post-céphalique est pratiquement absent, le reste fut attestée surtout par des héli-mandibules décharnées et des têtes découpées longitudinalement) étaient, au moins, sacrifiés. Aucune trace de feu (Gardeisen 1996, 801-820).

Exemple (a)

L'habitat Néolithique du Promachon dans le bassin de Strymon est caractérisé par la présence d'un bâtiment souterrain dont le radius est de 12 m et la profondeur d'au moins 7 m, construit vers la fin du VIe millénaire.⁴⁴ Cette fosse, enduite d'argile, était remplie du mobilier. Elle a subi des réparations successives, et avait des superstructures en bois, lesquelles étaient retenues par des poteaux de la même matière.

La découverte de certains objets (vases cultuels, figurines anthropomorphes et zoomorphes, modèle de maison en terre cuite décoré avec des bucranes—un autre de la même période fut trouvé en dehors de la structure souterraine), lors de la plus ancienne phase de la fosse, a permis de considérer que le bâtiment avait une fonction spéciale, communautaire ou religieuse. L'assemblage osseux recueilli dans ce contexte stratigraphique, bien qu'il comporte les mêmes espèces⁴⁵ que les

⁴⁴ Le site Promachon-Topolnica sur la rive ouest du Strymon (Macédoine orientale) couvre une étendue de 5 hectares et fut occupé pendant 500 ans. Le secteur grec, car le site qui s'étend sur les plateaux de deux collines adjointes, est aux confins de la Grèce et la Bulgarie, fut fouillé par Dr Ch. Koukouli-Chryssanthaki (Directeur du 18e Ephorie des Antiquités Préhistoriques et Classiques), M. Valla (archéologue de la même circonscription des Antiquités) et Dr I. Aslanis (Centre National des Recherches Scientifiques) Koukouli-Chryssanthaki *et al.* 2007, avec toute la bibliographie précédente. Le 1/3 du bâtiment-fossé fut fouillé.

⁴⁵ Il s'agit de : *Bos taurus* (77,89%), *Ovis aries*, *Capra hircus* (8,73%) les

dispositions qui ont suivi, diffère par la large surreprésentation des bovidés, qui totalisent presque 78% de l'ensemble de la faune de cet dépôt (*Charte 3*), par le plus bas âge des animaux abattus et par les 17 bucranes modifiées (*Fig. 2*).⁴⁶

Les bovidés étaient consommés, et leurs crânes prélevés, puis soigneusement transformés.⁴⁷ La peau et les parties molles étaient prélevées, en laissant l'os frontal et, parfois, le nasal, le temporal, le lacrymal, le zygomatique et une partie du maxillaire (*Figs. 3–5*).⁴⁸ Deux chevilles osseuses portaient de l'ocre rouge.⁴⁹



Fig. 2. Promachon. Bucrane. Le vaste os frontal est préservé presque entier (de la base du nez au sommet du crâne), uniquement dans 5 bucranes. L'os nasal encadré par des os lacrymaux, les zygomatiques et le corps du maxillaire sont rarement présents. Photo: Th. Papadhópoulos.

deux espèces), *Sus scrofa domesticus* (6,75%), *Canis familiaris*, *Bos primigenius* (1,92%), *Cervus elaphus*, *Dama dama*, *Capreolus capreolus*, *Sus scrofa ferus*, *Canis lupus*, *Vulpes vulpes*, *Lepus europaeus* et quelques restes de poissons (9026 fragments au total), Theodoroyianni & Trantalidou 2013. Les cabanes à silo et les espaces souterrains du village, bâties, vers le début du Ve millénaire avaient les mêmes espèces, mais en pourcentages différents. Les bovidés formaient 35% durant la même phase (5300–5070 av. J.-C.) et 42,5% durant la phase suivante (4900–4850 av. J.-C.) Kazantzis 2009, échantillon de 1560 ossements. Dans la structure souterraine la fréquence relative des bovidés consommées était 45% (sur un échantillon de 15756 ossements, 4900–4850 av. J.-C.) et 30% (sur un échantillon de 7822 ossements, daté vers 4500–4300 av. J.-C., âges obtenus par C14), Theodoroyianni & Trantalidou 2013.

⁴⁶ Ils semblent tombés à l'aplomb d'un montant de la structure sur poteaux (Koukouli-Chryssanthaki *et al.* 2007 et communication personnelle).

⁴⁷ Dans l'échantillon prédéfini de la fin du 6e millénaire (5300–5070 av. J.-C.) le NMI est 54 bovidés.

⁴⁸ Des traces d'incisions sur les frontaux sont visibles (Trantalidou 2010b ; Trantalidou & Gkioni 2006).

⁴⁹ Trantalidou 2010a ; Trantalidou & Gkioni 2006.



Fig. 3. Promachon. Le bucrane à droite préserve l'os lacrymal et une partie de l'os zygomatique. Le bucrane en bas préserve les deux os frontaux de la base de la corne à celle de la corne opposée. Photo : Th. Papadhópoulos.



Fig. 4. Promachon. Bucranes, vue ventrale. La surface endocrânienne est bien visible. La cavité du crâne est courte et globuleuse. La troisième tête osseuse en bas laisse apparaître les lacrymales et les sinus conchal moyen. Photo : Th. Papadhópoulos.



Fig. 5. Promachon. Parties crâniennes entièrement occupées par l'os frontal et le processus cornual de l'os frontal. Toutes les têtes ont subi le même traitement. Photo : Th. Papadhópoulos.

Bien que la fonction des bucranes (décor architectural ou symbole à connotations religieuses) ne soit pas positivement établie, le caractère communal de la structure ne fait pas de doute.⁵⁰ De surcroît, en attendant l'étude du reste du mobilier, on ne peut pas exclure qu'on soit en présence d'un ou de plusieurs repas, dictés par des préceptes d'ordre rituel.⁵¹

Exemple (b)

Dans le centre proto-urbain d'Akrotiri à Théra,⁵² 691 chevilles osseuses et un fragment de bois de cerf élaphe formaient un amas qui fut entouré d'un tissu-filet (Figs. 6–7).⁵³ À côté de cet assemblage, dont la fouille n'est pas achevée, se trouvait une petite larnax en terre cuite, incluant une petite caisse en bois, dans lequel une figurine zoomorphe en or représentant un ongulé à cornes a été découverte.⁵⁴ L'ensemble est daté du Bronze Récent (Cycladique Récent I).

La répartition spécifique des chevilles osseuses des ruminants cavicornes,⁵⁵ dont 27 étaient intactes, est la suivante : 514 provenaient des moutons, 152 de chèvres et 25 des bovidés. Le NMI est 301 animaux, chiffre que l'on peut porter à 500, si l'on tient compte de la morphologie (taille, robustesse) des pièces squelettiques.⁵⁶ La majorité des chevilles du

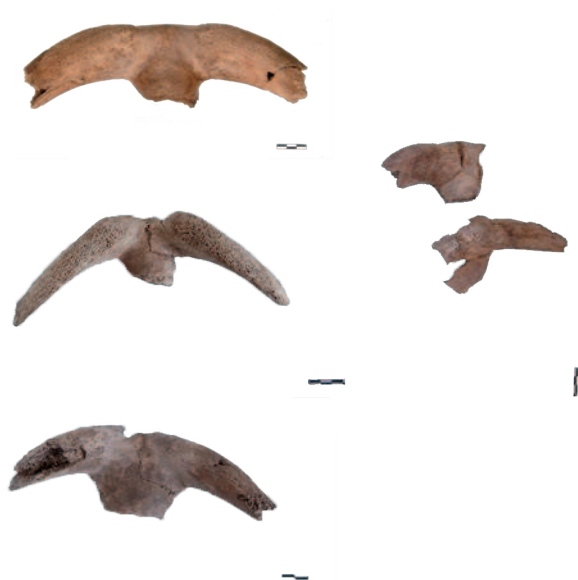


Fig. 6. Akrotiri à Théra. Têtes osseuses de moutons. Vues caudales. La région frontale porte l'implantation des processus cornuaux. La fosse temporale est plus ou moins préservée. La protubérance occipitale est toujours absente. Photo: G. Sarakinis.



Fig. 7. Akrotiri à Théra, XVII^e siècle av. J.-C. Dépôt de chevilles et de têtes osseuses de cavicornes, de moutons notamment. Archives de la fouille (1999).

⁵⁰ Dans des diverses civilisations du bassin méditerranéen, les bucranes sont les symboles du sacrifice par excellence. Ils ont souvent décoré les murs des sanctuaires et des enceintes sacrés. La présence du crâne et des chevilles aurait pu être une façon de tenir en mémoire le sacrifice, de préserver l'espèce, bien qu'individuellement, il a servi de nourriture ou de commémorer l'acte sacrée (N. Marinatos 1986, 27–29, 40 avec bibliographie précédente ; van Straten 1995, 159–160 commentaire sur le sacrifice en Grèce antique).

⁵¹ Les traces de cuisson dues à l'exposition de la viande aux flammes sont peu visibles.

⁵² L'endroit des trouvailles se situe au sud du bâtiment public, plein de connotations religieuses, Xeste 3. Le site a, par ailleurs, livré des centaines de milliers de résidus bio-archéologiques d'ordre domestique. Fouilles de l'Université d'Athènes sous la direction du professeur Chr. Doumas.

⁵³ Il est intéressant de noter que le filet est un attribut peint sur des bovidés-rhyta qui étaient des vases pour la libation en connexion avec les rituels et furent trouvés aussi bien en Crète et à Théra (N. Marinatos 1986, 30–32).

⁵⁴ Alexopoulos à paraître. Il relie ces trouvailles au symbolisme des « cornes de consécration » (éléments sacrés de la religion minoenne) lesquels en tant que composants architecturaux (paires de doubles cornes) furent trouvés dans le site d'Akrotiri aussi. Sur la définition zoologique de la figurine, Masseti 2008.

⁵⁵ Trantalidou 2008, 66–67 ; Trantalidou à paraître.

⁵⁶ 301 sont gauches, 260 droites. Certaines chevilles (30 ou 40 environ) proviennent d'un seul animal car, souvent, la partie intercornale était préservée. Le choix sur le côté, établi parfois dans le contexte des offrandes alimentaires funéraires et parfois dans le dépôt des animaux immolés aux dieux, dans l'amas rituel d'Akrotiri ne semble pas être attesté. Exemples potentiels : (a) A côté d'une des sépultures du Bronze Ancien, inhumée au fond d'un couloir étroit et obscur dans la grotte d'Ag. Triada à Karystos, située dans la partie sud de l'île d'Eubée, des hémimandibules droites plutôt que gauches, décharnées, des caprinés

furent déposées. Le reste de l'assemblage faunique, associé à des figures carbonisées (étude de Dr G. Kotzamani) ressemble à des rejets de repas funéraires, bien que l'ensemble soit sujet encore en divers interprétations. Les fouilleurs sont Dr F. Mavridis, Éphorie de Paléanthropologie et Spéléologie de la Grèce du Sud et Ž. Tancosić, Université d'Indiana (Mavridis & Tancosić 2009) ; l'étude est en cours par l'auteur de cet article. (b) Artémision à Ephèse d'Asie Mineure (Forstenpointner 2003, 211) et au temple d'Apollon Hylates à Kourion en Chypre (Davis 1996) une préférence légère aux pieds droits est discernée ; MacKinnon ce volume, discute un cas similaire concernant Némée. (c) L'autel de Délos, qui appartient à un groupe d'anciens autels construits en une matière provenant des victimes, était construit avec des cornes gauches (Plut. Vit. Thes. 21 ; Sp. Marinatos 1936, 242).

dépôt est isolée. En utilisant les critères ostéométriques pour la détermination du sexe, on obtient 137 males, 22 (+10) femelles et 7 individus probablement castrés.⁵⁷

32,02% d'elles portent des traces de carbonisation partielle, à ustion faible sur l'extrémité de l'os, et 5,21% portent des traces de dépeçage et de couperet provoquées par la séparation des frontaux du reste du crâne. 34 chevilles osseuses (4,92% étaient imprégnées, sinon dans deux cas au moins, peintes en lignes parallèles, en ocre ferrugineuse, dont la coloration varie du jaunâtre au rouge foncé ou en hématite.⁵⁸ Les chevilles semblent avoir été ramassées bien après la découpe de l'animal.⁵⁹ Elles auraient été ensuite enduites d'ocre et couvertes ou transportées dans un tissu.⁶⁰

Le choix des animaux mâles reflète les idées sous-jacentes de la zoo-mythologie universelle ; bélier, bouc, taureau comme symboles de fécondité, de prospérité, emblèmes de pouvoir ; mais, dans une région qui souffrait des catastrophes naturelles, leur force aurait pu avoir un caractère apotropaïque contre l'inévitable. L'entassement est peut-être lié à une commémoration, à une cérémonie destinée à rappeler des faits déjà survenus, comme par exemples des séismes.

Exemple (c)

Le nombre et la composition des animaux partagés lors d'une consommation festive ont un rapport immédiat avec le potentiel économique des contrées, relèvent des préférences

alimentaires des personnes impliquées, confèrent une valeur symbolique, et diffèrent des restes culinaires des habitats.

Les confirmations les plus anciennes de banquet, jusqu'à aujourd'hui, datent du Néolithique Récent (éventuelle cas de Promachon et de Makriyalos I en Piérie dans la Macédoine centrale, où on est en présence d'un seul épisode⁶¹), mais ils sont plus connus durant le Bronze Récent, durant lequel les centres palatiaux en Grèce australe fleurissent.

Dans le palais de Nestor à Pylos, les fouilles ont révélé six dépôts qui semblent être des restes sacrificiels calcinés, événements qui ont eu lieu un peu avant la destruction finale du palais (Helladique Récent IIIB, XIIIe siècle av. J.-C.). Les morceaux sélectionnés⁶² issus d'un seul incident sont surtout l'humérus, le fémur et la mandibule découpés et choisis, notamment, parmi les taureaux et les bœufs de la contrée. Ils proviennent de 5 à 11 individus.⁶³ La manipulation des carcasses et le transport des portions sont évidents.⁶⁴

Exemple (d)

La grotte spacieuse Sarakenos,⁶⁵ située sur la bordure orientale de l'ancien lac de Kopais (en Béotie), fut occupée depuis le Paléolithique jusqu'à l'Helladique Moyen.⁶⁶ Dans un coin de celle-ci, des multiples figurines en terre cuite, datées de la fin du Ve millénaire, Néolithique Récent, ont été récemment découvertes. Les figurines anthropomorphes, décrites comme brisées, comprennent surtout des têtes et des pieds.⁶⁷ Elles étaient associées aux bois de cerf de massacre. Bien que

⁵⁷ Dans la cité grecque, le choix de l'animal, de son sexe, de son âge ou de sa couleur dépend surtout de la nature de la divinité adorée. Exemples : (a) Une des lois sacrées à Lycosoura (Arcadie, Péloponnèse) affirme que les victimes au sanctuaire de Despoina (IIIe-début du IIe siècle av. J.-C.) devaient être de sexe féminin (Loucas 1994, 98). (b) Conformément à un passage de l'*Illiade*, Érechthée reçoit des taureaux et des jeunes ovins mâles (Hom. *Il.* 2.550-551 ; Christopoulos 1994, 120). (c) L'examen des ossements des chèvres immolées au sanctuaire K à Minoa (Amorgos) démontre que les chevrons mâles prévalaient (Trantalidou 2011, 1019). (d) Au sanctuaire d'Artémis à Éphèse les chèvres femelles étaient, de préférence, offertes au sacrifice (Forstenpointner 2003).

⁵⁸ Étant donné que les couleurs pâlisent progressivement, après la consolidation, les os sont gardés dans des caisses d'hygrométrie contrôlée. Les analyses sur la provenance de l'ocre ont été faites dans le Laboratoire du Centre de Physique Nucléaire (Démocrite) à Athènes, l'École Polytechnique en Crète et le Centre des Analyses des Œuvres d'Art en Macédoine.

⁵⁹ Sur l'évidence iconographique des têtes/crânes d'animaux isolées (représentations sur des sceaux) et la présence des chevilles osseuses dans des tombes, des cavernes, des sanctuaires de sommet et un des silos au palais à Malia (résidus de sacrifices en connexion avec la moisson ?) durant la période minoenne voir N. Marinatos 1986, 40.

⁶⁰ L'ocre fut observée à l'extrémité des chevilles osseuses de Promachon et au processus cornual de l'os frontal (face dorsale et/ou latérale), la base du processus cornual, la suture interfrontale, la surface endocrânienne d'Akrotiri. L'usage de l'ocre est connu dans toutes les civilisations et son symbolisme comme substitut du sang pendant des cérémonies magiques ou propitiatoires reste à démontrer.

⁶¹ Travaux de l'équipe scientifique de P. Halstead : Pappa *et al.* 2004.

⁶² Isaakidou *et al.* 2002, 86-92 ; Stocker & Davis 2004, 179-195.

⁶³ Morceaux de cerf élaphe sont présents dans deux des six dépôts groupés.

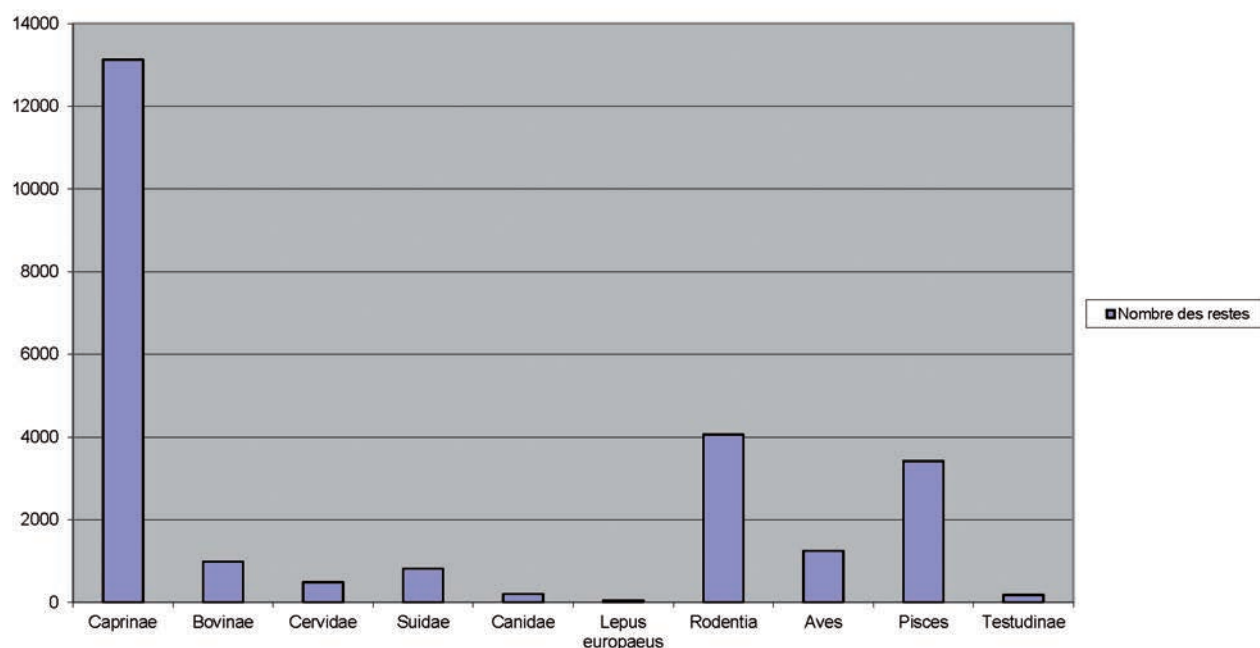
⁶⁴ L'amas des os retrouvé au-dessous du temple de Zeus à Némée (Péloponnèse nord-orientale) est moins spectaculaire. L'assemblage est daté de l'Helladique Récent IIIA2. Bien que le matériel contienne des morceaux de tous les animaux domestiques et un peu de gibier (du cerf élaphe), ce sont les bovidés qui totalisent la moitié (54 ossements) du dépôt, ce qui correspond à six individus. Le décompte des restes des bovidés a relevé des grandes lacunes. Tous les morceaux étaient prélevés à l'exception des têtes, des extrémités des pieds et quelques parties des os longs, les plus vulnérables (Dabney *et al.* 2004, Table 1). La céramique associée (des vases à boire—kylikes, des vases rituels et utilitaires) a établi l'idée d'épisodes limités. Une des interprétations proposées est que suite à des sacrifices sur place, les participants ont bu et consommé une partie de la viande, y compris la moelle. Ils auraient, par la suite, transporté les morceaux des bovidés ailleurs. Ceci aurait pu constituer un ou plusieurs festins. La viande devait être consommée rapidement, car elle pourrissait vite (Dabney *et al.* 2004, 197-215).

⁶⁵ Fouilles du professeur A. Sampson (Université de l'Égée) et du professeur J. Kozłowski (Université Jagellon, Cracovie). La fouille se déroule encore (décennie 2010 et suite)

⁶⁶ Sampson 2008.

⁶⁷ Orphanidis 2008, 401. L'archéologue publie la liste de 16 fragments de figurines humaines ; elle a reconnu le sexe de 5 d'entre elles, elles représentent toutes des femmes.

Charte 4. Grotte spacieuse Sarakenos, Kopais, Béotie, échantillon de 24555 ossements datant du Néolithique Ancien à l'Helladique Moyen.



le cerf élaphe fasse partie de l'assemblage osseux⁶⁸ (Charte 4) et qu'aucun sacrifice ne soit attesté, sa présence parmi les figurines⁶⁹ relève, à notre avis, du rituel.

Essayer de distinguer les traces d'origine anthropique et lier les ossements aux gestes et aux croyances

Les animaux non consommés

L'abattage des animaux laisse parfois des traces visibles dans les déchets culinaires. Dans les cas des inhumations d'animaux, qui sont presque régulièrement associés à des sépultures humaines,⁷⁰ la pratique de mise à mort n'est pas

facile à déceler,⁷¹ les os ne sont pas incinérés et portent en général peu ou pas du tout de traces.

Exemple (a)

En fait, les inhumations des animaux, en général, se situent à proximité des défunts sans autre relation que l'espace et la chronologie.⁷² Le tumulus de Mikri Doxipara,⁷³ en Thrace

des humains. Celles-ci forment l'exception. L'une d'elles en forme de ciste, très soigneusement bâtie de briques en terre cuite, comportait un chien qui gisait sur la côte droite. Les offrandes, deux vases à parfum fuselés, datent du Ier-IIe siècle ap. J.-C. (Zachariadou 2000, 157 ; observations personnelles).

⁷¹ La littérature antique n'est pas explicite. Dans le récit des funérailles de Patrocle (Hom. *Il.* 23.166–172), les chiens étaient tranchés, les chevaux étaient jetés directement (?) au feu. Dans le cimetière de Thérmi en Macédoine centrale (VIIIe–IVe siècle av. J.-C.), les restes de deux chevaux ont été découverts gisant dans des fosses peu profondes au-dessus desquelles des amas de pierres se sont entassés. On a supputé que l'un des chevaux fut transporté les pieds attachés. Une pointe de lance coincée à travers les côtes de l'autre animal (Ignatiadou 1994, 446) témoigne probablement du rôle dévolu à cet arme dans le cadre des rites funéraires.

⁷² On peut citer un cas de relation corporelle dans une sépulture du Bronze Récent, déposée sans mobilier à plat sur le sable dans la région d'Ialysos antique, la tête du cavalier était posée sur le dos du cheval. Le squelette ne portait pas d'empreintes de coups d'abattage (fouilles de l'archéologue T. Marketou, 22e Éphorie des Antiquités, observations personnelles sur le matériel).

⁷³ Le tumulus de Mikri Doxipara—Zone d'un diamètre de 60 m et d'une hauteur de 7,50 m fut construit sur une colline naturelle au sud de la

⁶⁸ Trantalidou, étude en cours.

⁶⁹ J'ose une interprétation : elles ont pu être mutilées lors de cérémonies car, selon le fouilleur, la stratigraphie était intacte. On trouve aussi, dans d'autres civilisations, des figurines cassées intentionnellement par les croyants. À titre d'exemple, on peut mentionner le dépôt spécial sud de Kéros dans les Cyclades dans lequel plusieurs figurines anthropomorphes en marbre, brisées délibérément, furent découvertes lors des fouilles 2006–2008 (Renfrew *et al.* 2008). La figurine brisée est-elle alors le substitut du sacrifice d'un être vivant ?

⁷⁰ Dans le cimetière oriental d'Athènes (actuel place Syntagma), qui fut constamment utilisé du début du IVe av. J.-C. à la fin du IIIe siècle ap. J.-C., 300 tombes furent fouillées durant les années 1993–1994. Parmi elles, deux tombes de chiens ne semblaient étroitement liées avec celles



Fig. 8. *Doxipara* en Thrace. Tumulus. IIe s. apr. J.-C. Inhumation des deux chevaux A' (détail). Photo : K. Trantalidou.

(IIe siècle après J.-C.) couvrait quatre sépultures humaines à incinération, deux autels sur lesquels des vases et des ossements d'animaux ont été trouvés, et plus au sud cinq chariots avec leurs chevaux de trait⁷⁴ et deux autres fosses comprenant les restes des cinq chevaux au total (Figs. 8–9). Les cadavres furent déposés simultanément dans chaque fosse, en fonction de l'espace disponible, et ont été rapidement recouverts de terre, car les squelettes ne sont pas disloqués. Les restes osseux ne portaient ni traces de découpe,⁷⁵ ni brûlures, ni perfora-

tion frontale au crâne, ni traces d'impacts de coups de hache sur les faces occipitales qui auraient pu entraîner des coups fatals, ni traces aux vertèbres cervicales, qui laissent supposer l'égorgeement des chevaux.⁷⁶ Le seul indice de mise à mort concerne le chien qui fut déposé dans la fosse de la Véhicule A. Il aurait pu être étranglé, car il semble qu'il existe une rupture à la colonne vertébrale, un léger déplacement de l'atlas.

rievre Ardas (Triantaphyllos & Terzopoulou 2005, 11–27, avec toute la bibliographie précédente). L'Éphore Honoraire des Antiquités D. Triantaphyllos (Thrace) et D. Terzopoulou (Musée Archéologique de Thessaloniki) furent responsables des fouilles.

⁷⁴ Les chevaux ont tiré le chariot avec le corps du défunt et les offrandes. S'agissait-il d'amener le souverain vers l'arc de l'au-delà ? Autrement dit, peut-on aussi leur attribuer un rôle de psychopompe ?

⁷⁵ Pour ce qui est des chevaux, on peut prendre en considération les exceptions suivantes : (a) Cimetière d'Aidonia, près de Némée, en Péloponnèse, XIVe siècle av. J.-C. incision d'une longueur de 5 mm—sans plus de précision—sur la mandibule du cheval (Antikas 2005, tombe 12, fig. 13). (b) Nécropole orientale de la cité Amphipolis (embouchure du fleuve Strymon, Ve siècle av. J.-C.—Bas Empire 1500 tombes humaines fouillées représentant une population à caractère cosmopolite). Six grands groupes d'inhumation des équidés au milieu des tombes du

IVe–IIIe siècle av. J.-C. (les membres antérieurs d'un équidé ont été retrouvés mêlés aux jambes d'un squelette humain. Parmi les 25 animaux, un hybride portait des « stries fines et courtes au niveau des deux faces internes (linguales) des mandibules. On pensera, ici, à un enlèvement de la langue ». Dans la même tombe (207b), sur la diaphyse dorsale d'une phalange proximale appartenant à un autre hybride des stries courtes et parallèles très nettes ont été repérées. Elles peuvent être issues de la découpe de la peau (Malama & Gardeisen 2005, 170–171). (c) Des incisions profondes parallèles sont visibles sur la face latérale de la diaphyse des troisièmes phalanges proximales d'un individu recueilli dans la cité de Plotinopolis en Thrace (19e Éphorie des Antiquités sous la direction de l'archéologue M. Koutsoumanis, Trantalidou, observations personnelles), daté de l'époque impériale à la 1e guerre mondiale, et examiné au laboratoire. Elles peuvent évoquer la découpe de la peau mais sans précision chronologique, l'observation n'a aucune valeur.

⁷⁶ Trantalidou 2005 ; Trantalidou 2010a, 55–124. Les animaux ne sont pas totalement dégagés.

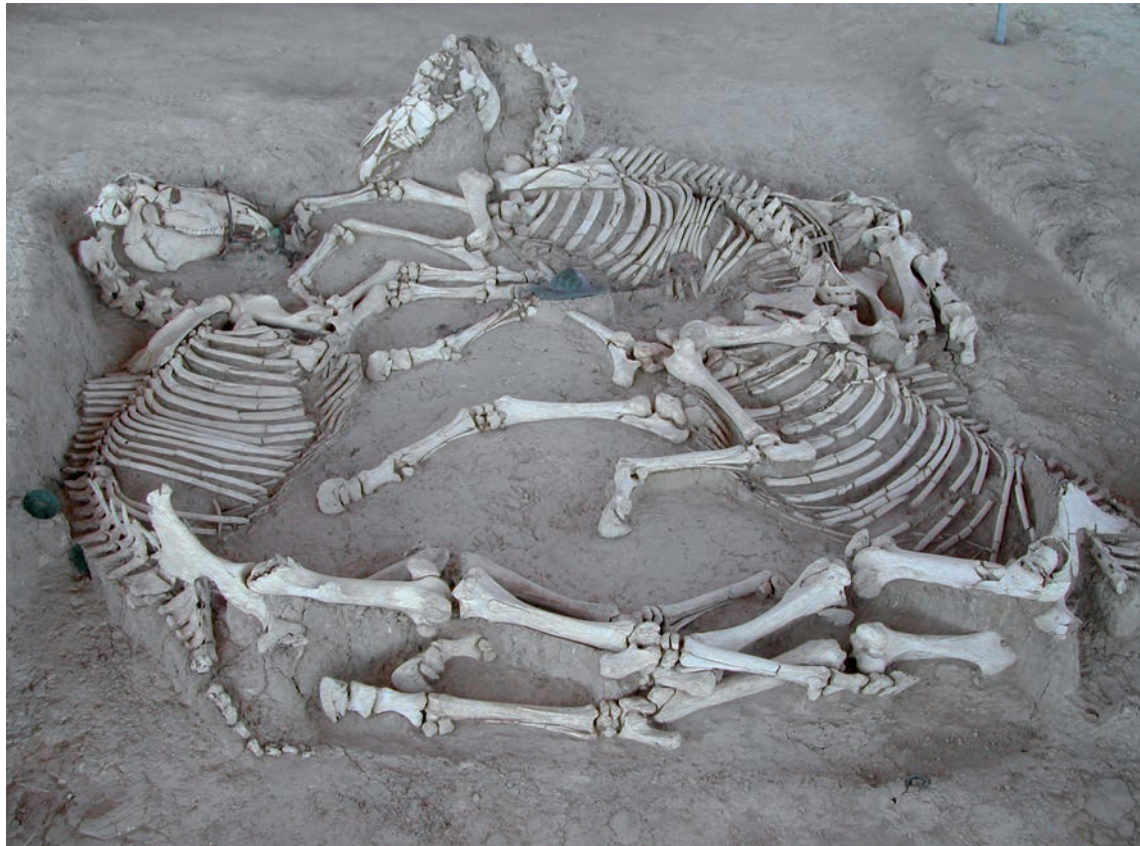


Fig. 9. Doxipara en Thrace. Inhumation des trois chevaux auxiliaires B'. Crâne, région du coup, du tronc et des membres thoraciques de l'un, cubitus, région métacarpo-phalangienne d'un autre. Photo : K. Trantalidou.

De même les impacts violents qui ont causé la mort des animaux—offrandes aux défunts—ne sont pas visibles sur les squelettes de chevaux provenant de Ladi près de Didymoteicho, près du fleuve Évros en Thrace,⁷⁷ de la cité d'Abdère⁷⁸ en Thrace, les dépôts de chevaux dans les treize fosses de Lithochori près de Kavala dans la région de la Macédoine orientale et sur les éléments éparses des équidés du cimetière sud de la ville actuelle de Lamia (vallée du Spercheios).⁷⁹

⁷⁷ Fouilles de la 19^e Éphorie des Antiquités Préhistoriques et Classiques sous la direction de D. Triantaphyllos. Fin du I^{er}—début du II^e siècle ap. J.-C. (observations personnelles sur le squelette d'une jument).

⁷⁸ Fouilles de la 18^e Éphorie des Antiquités Préhistoriques et Classiques sous la direction de Ch. Koukouli, Éphore des Antiquités et Ch. Samiou (observations personnelles sur le squelette d'un mâle adulte).

⁷⁹ La partie sud du cimetière antique préservait les inhumations des hommes et des trois squelettes de chevaux, plus ou moins complètes, ainsi que les concentrations des ossements sans connexion, issus des équidés adultes, dont un vieux adulte (seraient-ils posés au-dessus des fosses humaines et furent, par la suite perturbés ?). Cette espace fut limitée d'un péribole et fut en usage du IV^e au I^{er} siècle av. J.-C. Le squelette, le mieux préservé, se trouvait sous un amas de pierres, était

Exemple (b)

Les chiens immolés et déposés dans les tombeaux portent rarement des traces issus des coups d'abattage. Cependant, l'animal est souvent décapité, mais seule la tête est offerte.⁸⁰ Parfois, les inhumations sont accompagnées de certaines par-

orienté nord-sud, gisait sur le côté droit et avait les pieds antérieurs pliés. Un second, orienté ouest-est, était posé sur le dos, avait le thorax et les membres antérieurs vers la côté droite et était aussi enseveli sous un amas de pierres. Le troisième qui gisait dans une fosse sur son côté gauche, était dépourvu des pieds antérieurs et les membres postérieurs étaient fortement pliés pour que le corps puisse être placé au bien : Fouilles de la 14^e Éphorie des Antiquités Préhistoriques et Classiques sous la direction du Dr M. Papakostantinou, Éphor des Antiquités, en 2006 ; observations personnelles.

⁸⁰ Trantalidou 2006, Tables 3–5a (recensement des restes des canidés dans 31 tombes datant de l'âge du Bronze à l'époque impériale dans le Péloponnèse, en Crète et en Attique). Le traitement différent de la tête aussi bien des animaux porteurs des valeurs et des humains est connu dans diverses civilisations et ne mérite plus de commentaires.

ties du corps des chiens,⁸¹ adultes dans la plupart des cas.⁸² Il en va de même avec le cheval. Néanmoins, jusqu'à aujourd'hui, des traces de dépeçage⁸³ et des brûlures⁸⁴ n'ont été rapportées qu'une seule fois.

Offrandes divines, sacrifices et repas sacrés⁸⁵

L'état de conservation des os est susceptible de nous renseigner sur les rituels. Il est possible de distinguer les rituels qui impliquent l'exposition à l'air libre des pièces de viande et le pourrissement de l'animal, par la présence de manducation canine et la dégradation de la surface des os, et les rituels qui font penser que l'animal ou une partie de son corps fut incinéré, car les os se déforment par la chaleur.

Exemple (a)

Sur les terrasses fouillées de la colline d'Ag. Georgios en Cythère 16 emplacements comportant de cendres furent signalées. 2,67% des os avaient été noircis. Le matériel donne l'impression⁸⁶ qu'il était exposé dans la nature avec ou sans consommation des morceaux. 0,64% des os avaient des traces de découpe dans la totalité du matériel non remanié. Dans ces lambeaux intacts, tous les restes du corps des caprinés existaient, mais pas les restes d'un individu dont une partie du squelette ne serait en connexion de sorte qu'on puisse affirmer l'enterrement de l'animal⁸⁷ ou un pourrissement d'un animal jeté dans une fissure, un gouffre.

⁸¹ Quelquefois des fragments osseux d'animaux domestiques habituellement consommés sont présents. Ces derniers peuvent être interprétés comme les reliques d'un repas funéraire ou des offrandes destinées aux défunts. Rares sont les cas de lièvre et de cervidés.

⁸² Les exceptions ne font pas défaut. Outre les dépôts sépulcraux dans les puits déjà mentionnés, des nombreux chiots et un renard furent découverts au-dessous de la chambre funéraire d'un tombeau situé dans la région de Vronda (Kavousi) en Crète orientale (Day 1984, 24–25).

⁸³ La fouille du tombeau à chambre funéraire dans la région de Galatas (Troizinia, Péloponnèse), à l'intérieur duquel, 31 individus au total furent inhumés durant l'Helladique Récent III (1320–1100 av. J.-C.), a révélé la présence des squelettes de deux chiens, éventuellement dépouillés, parmi les ossements des ongulés, du lièvre et d'oiseaux (Hamilakis 1996, 153–166).

⁸⁴ Tombeau à chambre funéraire et fosse dans la région de Pérati (Attique, Helladique Récent III, 1070–1050 av. J.-C.) contenant trois squelettes humains, dont un incinéré. Les ossements du chien étaient brûlés (Iakovides 1969, vol. 1, 159 ; vol. 2, 32, 42 et 54).

⁸⁵ Sur les sujets du sacrifice, des offrandes non sanguines et des repas sacrés, voir successivement Jameson 1994 ; Kearns 1994 ; Linders 1994, tous les trois avec bibliographie précédente.

⁸⁶ L'impression se justifie plutôt par la dégradation des os que par les morsures qu'elles ne sont pas décelables.

⁸⁷ En comparant divers dépôts qui présentent des caractères communs (y compris de repas sacrés) dans les palais de Malia, de Knossos et de Zakros, dans des sanctuaires ruraux ou urbains ainsi que dans les sanctuaires de sommet, N. Marinatos (1986, 35–39) signale que, d'une part, les autels en Crète minoenne ne portaient pas de traces de brûlures (1986,

Dans le sanctuaire de Symi à Viannos, les unités stratigraphiques néo-palatiales, issues du culte en plein air, ont livré 3,02% d'os brûlés seulement, sur la totalité de l'assemblage mentionné au début de l'article.

Il apparaît donc que, dans un contexte religieux, la présence des cendres, dans une structure ou foyer ouvert, n'implique pas forcément la découverte d'ossements noircis au lieu de brûlés. Pour ce qui concerne les sanctuaires de sommet, certains archéologues ont conclu que des feux s'allumaient sur leur plus haute terrasse. Avant que les étincelles fussent totalement éteintes, les croyants auraient jeté leurs offrandes en terre cuite, ce qui le suggère, c'est que ces offrandes trouvées dans les cendres n'étaient pas noircies.⁸⁸ Une telle hypothèse semble se vérifier dans le sanctuaire d'Ag. Georgios en Cythère. D'autres hypothèses peuvent être cependant envisagées. Dans le monde de la Grèce archaïque, l'eschare sur la Terrasse de Xobourgo ne comprenait que 8 fragments osseux.⁸⁹ Faudrait-il, selon les assemblages, orienter notre recherche vers la préparation des repas de viande bouillie qui avaient lieu dans un lieu sacré, l'éventuelle rôtissage des entrailles qui ne laisse pas de traces,⁹⁰ la présence des libations ou des offrandes non sanglantes ?

Exemple (b)

Dans les sanctuaires ruraux, tels que les grottes, le rituel semble se développer près des rochers plats qui ont souvent servi comme autels :⁹¹ dans la grotte des Nymphes, située dans la Vochyna, gorge qui conduit à l'intérieur de l'île dans le village maritime de Pôros en Céphalonie⁹² autour d'un rocher, des

35) et, d'autre part, que le rituel minoen comprenait soit l'holocauste des quartiers animaux sélectionnés, soit l'enterrement d'une partie de l'animal préalablement cuisinée. Selon N. Marinatos, le premier traitement était d'usage aux sanctuaires des sommets (sur le Mt Juktas l'autel était construit au-dessus d'un chasme naturel auquel on accédait par une rampe cérémoniale, N. Marinatos 1986, 15), le deuxième était destiné à des divinités chtoniennes. Le reste de la carcasse demeurerait consommable par la communauté. Le seul ennui est que, à l'époque, des rapports détaillés sur la faune des sanctuaires n'existaient pas.

⁸⁸ Platon 1951, 151–153 et 157. L'archéologue discute les trouvailles du sanctuaire Maza, dans la contrée de Crète orientale, ayant eu la connaissance de bien d'autres lieux de cultes similaires.

⁸⁹ Trantalidou 2011, table 12. L'eschare orthogonale à l'intérieur de *sekos* du temple d'Apollon, situé au nord de la colline Soros en Thessalie, ne contenait pas d'ossements (Mazarakis-Ainian 2006, 274).

⁹⁰ L'acte est représenté sur un cratère à figures rouges, Vatican 17924 (van Straten 1995, V206).

⁹¹ Exemple : La caverne Skoteino (altitude de 1000 m) en Crète minoenne. Près du rocher naturel, des cendres mêlées à des tessons et d'ossements, probablement des restes des repas. Il en va de même pour Idaeon Antron, sur le massif de Psiloritis, les grottes d'Eileithyia (ancien Inatos) sur le rivage de la mer de Libye, et Patsos (sur le versant ouest du massif de l'Ida). Par contre, les grottes de Psychro avaient un autel composé de pierres grossièrement taillées (Rutkowski 1986, 46–71).

⁹² Territoire de l'ancienne cité de Pronnoi, dans la partie SE de l'île de

cendres et des figurines votives ont été découvertes.⁹³ Dans la grotte des Nymphes (Kourita) à Paliambela, région de Bonitsa, en Acarnanie, une partie du plancher rocheux bombée et aplatie (l'autel ?) était couvert des cendres. Enfin, dans la grotte des Nymphes à Lehoa en Corinthe (Péloponnèse), un rocher plat a été utilisé comme autel.⁹⁴ L'autel se situe sur une terrasse (une plate-forme) de la grotte, derrière laquelle des figurines votives, des figurines faisant partie des danses circulaires, des tessons inscrits et des ossements ont été jetés 20 m plus bas.⁹⁵ Presque aucun ossement, sauf un ou deux astragales modifiés, n'a été brûlé.⁹⁶ D'une manière ces constatations se rattachent peut-être au fait que, parmi les reliefs votifs aux Nymphes, ceux qui représentent un sacrifice d'animal sont plutôt rares.⁹⁷

Exemple (c)

À l'intérieur du temple archaïque-classique d'Apollon,⁹⁸ qui se situe en dehors des murailles australes de la cité antique d'Amphanai ou Pagasai,⁹⁹ se trouvait une construction allongée, une banquette qui longeait les trois de quatre murs de la cella. Sur celle-ci 479 ossements furent dénombrés.¹⁰⁰ 27

Céphalonie (îles Ioniennes).

⁹³ Hatzioti & Stratouli 1997, 63–70. La grotte (190 m², altitude 70 m) fut fréquentée dès la fin du VIIe, voire le début du VIe siècle jusqu'au début du IIe siècle av. J.-C. Les lentilles de cendres de la période hellénistique et de la première moitié du VIe siècle, les ossements des caprinés, dont plusieurs avaient des traces de brûlure, la multitude des vases servant à boire, la vaisselle des repas ainsi que les fosses creusées chaque fois qu'un nettoyage paraissait nécessaire (rejets de culte), témoignent du rituel, des sacrifices et des repas qui les accompagnaient. Les caprinés étaient amenés et sacrifiés sur place (Hatzioti *et al.* 1982, 45).

⁹⁴ Territoire de l'ancienne cité de Sicyone.

⁹⁵ Kormazopoulou *et al.* 2006, 102–103. Pour l'instant les fouilleurs n'ont pas conclu si les pèlerins déposaient les offrandes immédiatement dans la grotte, suite des cérémonies sur place ou s'ils les amenaient d'autres sanctuaires quand elles n'étaient plus d'usage.

⁹⁶ Trantalidou, étude en cours. J'ai la même impression pour le matériel issu de la grotte des Nymphes de la montagne Hélicon. La documentation apporte des informations sur des pratiques sacrificielles célébrées sans incinération des morceaux : (a) Au sanctuaire de Déméter à Mytilène en Lesbos des porcelets entiers non brûlés étaient réservés à la divinité (Ruscillo 1996 ; Bookidis *et al.* 1999, 51). Dans ce cas, un double culte serait offert, car Reese (1989, 68) témoigne le contraire. Sur la multiplicité des rituels au sanctuaire d'Eleusis, voir Clinton 1988, 69–80. (b) Dans le sanctuaire d'Athéna à Lindos, à Rhodes, les sacrifices par le feu n'étaient pas d'usage—*apya iera* (Blinkenberg 1931, 10).

⁹⁷ van Straten 1995, 91.

⁹⁸ En fait, bien que l'étude du mobilier soit en cours, la datation du sanctuaire doit s'échelonner entre la fin de l'époque archaïque et le début du IIIe siècle av. J.-C. Fouilles du Professeur A. Mazarakis-Ainian (Université de Thessalie).

⁹⁹ Le fouilleur, en présentant toute la bibliographie antérieure, semble opter pour le deuxième nom. La ville était perchée sur la colline de Soros qui surmonte le golf de Pagasitikos en Magnésie, Thessalie (Mazarakis-Ainian 2006, 269–273).

¹⁰⁰ Environ 1500 fragments provenant notamment des caprinés furent

de ceux-ci (5,67%) étaient incinérés. La présence des os sur la banquette et le foyer dans la même pièce, le *sekos*, conforte l'hypothèse qu'à l'intérieur de l'édifice se tenaient des repas.¹⁰¹

Exemple (d)

La couche des cendres et les « bûchers »¹⁰² du sanctuaire (édifice K), au sommet de la cité de Minoa,¹⁰³ établie dans l'île cycladique d'Amorgos, contenaient pêle-mêle 3844 ossements et 61 coquilles, sur une totalité de 6786 et 782 fragments dénombrés dans l'ensemble du lieu (espaces, en plein air et couvertes, remplissage, sols, foyers). L'ensemble des niveaux étudiés datent du Néolithique final/âge du Bronze Ancien et de la deuxième moitié du VIIIe siècle av. J.-C. au IVe siècle apr. J.-C.¹⁰⁴ Au cours des périodes historiques, les rituels se succédaient les uns les autres, et on ne pourra pas discerner quel matériel faunique appartient à quel siècle.¹⁰⁵ Toutefois, certains ne contenaient que des vases de la période géométrique tardive et d'autres avaient surtout des vestiges datant des périodes classique et hellénistique.

Les ossements de caprinés étaient calcinés, pour la plupart.¹⁰⁶ Le taux atteignait 55 à 77% des restes d'animaux vertébrés, selon les bûchers (*Chartes* 5–6).¹⁰⁷ L'examen détaillé de la répartition anatomique des restes indique que ce sont surtout les chevilles osseuses (le plus souvent sans brûlures),

collectés lors des fouilles 2004–2007 de l'ensemble des pièces et les abords immédiats du sanctuaire. Ils étaient dégradés mais en général non brûlés (Trantalidou, étude en cours).

¹⁰¹ Mazarakis-Ainian 2006, 274. Il suppose l'organisation des dîners.

¹⁰² Les bûchers qui contenaient des ossements, des coquillages, des objets métalliques et de la céramique, étaient couvertes par des dalles en schiste (Marangou 1985, 189).

¹⁰³ Fouilles du Professeur à l'Université d'Ioannina, L. Marangou. L'édifice K couvrait une surface de 100 m² (Marangou 1999, 9–26 ; 2002, 254–259, avec toute la bibliographie précédente).

¹⁰⁴ La périodisation fut justifiée par la céramique (marqueur chronologique), l'architecture et les offrandes. La période géométrique est caractérisée par un culte chthonien. Durant les périodes archaïque, classique et hellénistique, un culte dionysiaque s'est graduellement développé, tandis qu'à la période impériale, sous l'influence de l'Égypte, on a vénéré Sérapis, Osiris et Isis (Marangou 1999, 9–26 ; 2002, 254–259).

¹⁰⁵ 19 concentrations contenant de charbon de bois, des cendres, des restes de la faune des vertébrés et des invertébrés et des offrandes, Marangou 1999, 9–26 ; 2002, 254–259. Toutefois, certaines ne contenaient que des vases de la période géométrique tardive.

¹⁰⁶ Dans le petit sanctuaire de Minoa, il y avait trois bûchers dans lesquels aucun os n'était consommé, et trois autres dans lesquels un seul était incinéré. Étant donné que seuls les restes des caprinés ont subi la combustion, il serait intéressant d'examiner de nouveau tous les objets retrouvés dans les foyers pour savoir si une différenciation dans les rituels du culte s'est effectué pendant les siècles.

¹⁰⁷ 11 bûchers sur 19 contenaient des fragments brûlés-incinérés. Les restes des léporidés (sauf un fragment de fémur), des suidés, des bovidés, des patellidés, des hélicidés et l'avifaune qui était représentée de peu d'éléments, faisaient parti de l'assemblage, mais n'avaient pas de traces de brûlures (Trantalidou 2011).

les vertèbres et le fémur qui sont représentés.¹⁰⁸ En fait, l'analyse des vestiges nous informe que, dans chaque bûcher, les restes accumulés des caprinés, à savoir les fragments des chevilles osseuses, des côtes, des vertèbres, de la ceinture scapulaire, des parties des humérus, de la ceinture pelvienne, des parties de fémurs et de quelques parties distales de pieds (le bas de pattes sont des déchets peu intéressants en termes de consommation), étaient liés à des morceaux tantôt d'un jeune porc (dents, sacrum, vertèbres caudales), tantôt d'un jeune bovidé ou d'un lièvre auquel s'ajoutaient quelques mollusques. Dans les bûchers, les restes d'un vertébré (capriné) mais, dans quelques cas, trois à neuf, animaux étaient identifiés.¹⁰⁹

Les traces de découpe faisaient presque défaut, mais l'évaluation des pièces à tous les niveaux du sanctuaire a démontré que, quand ce menu du bétail fut mis à mort et fut dépouillé sur place, la tête et surtout le frontal avec les chevilles osseuses furent offerts à la divinité.¹¹⁰ Le même geste a été décelé au sanctuaire d'Hermès et Aphrodite à Symi de Viannos. Là, à l'âge géométrique-début de l'âge archaïque, autour de l'autel les frontaux et les chevilles osseuses de chèvres et de la chèvre aegagre furent déposées.¹¹¹

¹⁰⁸ Des occurrences similaires : (a) Sur l'autel d'Aphrodite Ourania, dans l'Agora d'Athènes (VIe-Ve siècle av. J.-C.), un sureffectif des vertèbres caudales et des os de la cuisse, issus des carcasses des moutons et des chèvres, étaient retrouvés, calcinés pour la plupart (95%). Les restes des poissons, d'oiseaux et des coquillages n'étaient pas brûlés (Reese 1989, 63-70), constatation qui rejoint les remarques faites pour l'édifice K à Minoa d'Amorgos. (b) À Érétrie, dans l'Aire sacrificielle nord, le fémur était l'élément quasi exclusif et avec les rotules et les vertèbres caudales formaient le 93% de l'assemblage. Les offrandes de la cuisse étaient destinées à la divinité (Chenal-Velarde 2001, 32-34). La queue est un des mets appréciés dans certaines sociétés (Chaix & Sidi Maamar 1992). (c) La documentation sur les offrandes des membres pelviens de l'animal, souvent incinérés en grand pourcentage, est assez abondante (signalée déjà par Forstenpointner 2003). (d) Le prélèvement de la cuisse pour qu'elle soit incinérée est évoqué par Peters & von den Driesch 1992 (dépôt dans un *bothros* à l'intérieur du temple archaïque d'Aphrodite à Milet), par Reese 1989, 68 (autel du sanctuaire de Déméter et Koré à Mytilène dans l'île de Lesbos ou vertèbres et fémurs calcinés faisaient l'écho des pratiques rituelles célébrées) et par le même archéozoologue pour le complexe de trois temples à Kommos (dont la fonction s'étale de la période géométrique à l'époque hellénistique (Reese 1984). Ekroth (2009, 36), faisant la synthèse de ces mêmes assemblages, sur les pratiques normatives liées au sacrifice, confirme que la part divine est représentée par des ossements fragmentés et calcinés. Les fémurs s'avèrent la plus ancienne offrande. Le sacrum et les vertèbres caudales sont, parfois, déchiffrés.

¹⁰⁹ Bûcher 1 et Bûcher KA4 contenaient les restes de trois animaux (NMI), Bûcher KA3 de cinq, KA4 2/10 de neuf.

¹¹⁰ La démarche semble être la même avec l'expérimentation exposée par G. Forstenpointner dans ce volume.

¹¹¹ Trantalidou, étude en cours. Rappelons qu'au temple de Dréros en Crète orientale, bâti en l'honneur d'Apollon Delphinios, les chevilles osseuses de chevreaux étaient déposées (Sp. Marinatos 1936, 224, 241-244 ; Cook 2010, 1087 en comparant avec l'autel à cornes, principal au

Puisque la science ne se réduit pas à un simple travail de collection de données éparses, mais consiste en une véritable démarche d'élaboration d'hypothèses capables de rendre compte correctement des données,¹¹² j'ose formuler la supposition qu'on est une fois de plus en présence de différents types de rituel ; dans le cas du sanctuaire K, Bûcher 1/85 découverte dans le compartiment K2 relève du type de *thysia* reconnue comme telle à travers l'étude des sources textuelles et iconographiques.¹¹³ Parallèlement, les restes fauniques des certains bûchers (ex. 1/89, 1a/89, 1b/89) semblent contenir plutôt de détritiques de repas que le reliquat d'une *thysia*.¹¹⁴

Par conséquent, il est envisageable de spécifier les rites durant lesquelles une partie de l'animal fut consommée par le feu (*thysia*) et les coutumes qui laissent supposer que la portion la plus large de l'animal fut partagée par les pèlerins.

Exemple (e)

Le séjour des os, parfois prolongé, dans les foyers des sanctuaires ou sur les autels, semble être un des traitements principaux de morceaux de l'animal sélectionnés qui se manifeste dès l'époque géométrique.¹¹⁵

Les effectifs osseux¹¹⁶ issus des deux autels du sanctuaire accroché à la terrasse moyen (alt. 110 m) de la ville haute de Kythnos¹¹⁷ sont, pour la plus part, incinérés. La majeure par-

culte délien : Callim. *Hymn* 2,60-64).

¹¹² Version libre d'une phrase, issue du roman de M. Gregorio, *Days of Atonement* (traduit en Grec), Athènes 2009, 367.

¹¹³ Ekroth 2009, 125-151.

¹¹⁴ Discussion des données avec Professeur G. Ekroth. Notons que : (a) Les tranchés autour de l'autel d'Artémis à Olympie, daté de l'âge archaïque récent, ont fourni 1380 fragments osseux issus très probablement des repas, car les fémurs et le sacrum, pour la plupart, manquaient et auraient pu être la part offerte à la déesse (Benecke 2006). (b) Les dépôts fauniques examinés dans le sanctuaire d'Athéna à Lindos, à Rhodes (Blinkenberg 1931, 11), d'Héra à Samos (Boessneck & von den Driesch 1988) ou d'Apollon à Halieis, en Argolide (Jameson 1988), des os relevant le passage de flammes et encore plus une température plus élevée que le simple noircissement ne sont pas rapportés. Ils étaient probablement les résidus de la composition des restes des repas.

¹¹⁵ Dans le sanctuaire d'Apollon Daphnéphoros, courant le VIIIe siècle av. J.-C., les débris calcinés totalisent 81,5% sur un échantillon de 740 ossements (Chenal-Velarde 2001) et dans le sanctuaire d'Apollon à Kourion (Chypre, VIIIe-VIe siècle av. J.-C.), les restes incinérés sont 97,6% sur un échantillon de 512 ossements (Davis 1996, 181-182). Les rejets (divers *bothros hekatompados*, épandage d'os au-dessous du péristyle du temple archaïque monumental) d'Artémision à Éphèse, étaient significatifs. Forstenpointner a mis l'accent sur 342 fémurs brûlés qui semblent démontrer les étapes rituelles que l'iconographie attique illustre (Forstenpointner *et al.* 1999 ; Forstenpointner 2003). Notons que 25477 os furent collectés dans toute l'espace de l'édifice sacré.

¹¹⁶ Le dénombrement a abouti à 43579 restes. Les caprinés (99,10% de l'ensemble des mammifères trouvés dans le sanctuaire) sont largement majoritaires (Trantalidou, étude en cours).

¹¹⁷ La capitale homonyme de l'île cycladique Kythnos est située à sa partie nord-ouest. Elle fut habitée du Xe av. au VIe s. apr. J.-C. Fouilles du Professeur A. Mazarakis-Ainian, Université de Thessalie.



Fig. 10. Kythnos dans les Cyclades. Ville haute, autels. Accumulations osseuses. Photo : A. Iliakopoulos.

tie du mobilier date de l'époque hellénistique car le temenos fut systématiquement nettoyé de tout détritus (le temple¹¹⁸ date du VII–VI siècle av. J.-C. mais l'édifice fut réparé à la fin du IIIe siècle). La dégradation de ces pièces, jadis rigides, est importante. Les accumulations osseuses, provenant des deux autels, comportent des fragments grisâtres qui dépassent rarement 3 cm de longueur, voir 1 cm, et les traces de découpe sont quasi inexistantes¹¹⁹ (Fig. 10).

Cette analyse aura pu être décevante car ni l'assemblage de Minoa, ni celui de Kythnos ne nous permettent de conclure si les morceaux offerts aux dieux étaient décharnés (l'os enrobé de grasse) ou pas.¹²⁰

¹¹⁸ Selon le fouilleur le temple aura pu être dédié à une divinité féminine (Héra ou Aphrodite). Voir les multiples rapports et publications (fouilles, structures, mobilier impressionnant) parus au site web de l'Université (<http://www.ha.uth.gr/gr/research.kythnos.asp>).

¹¹⁹ Des traits similaires particuliers (incinération, longueur > 3 cm) sont mis en évidence durant la fouille de l'"autel" appartenant au temple dorique à Aséa, en Arcadie, dans le Péloponnèse, qui a été daté du VIe siècle av. J.-C. La fouille a livré 8000 ossements calcinés. L'animal fut probablement découpé selon un schéma standardisé car le fémur, la rotule, le sacrum et les vertèbres caudales de 100 caprinés et de 2 bovidés constituaient la grande majorité du dépôt (Vila 2000, 201–202).

¹²⁰ L'absence de traces de découpe s'observe dans d'autres sanctuaires

Exemple (f)

Sacrifice holocaustique ; aucune circonstance parmi les précédentes ne correspond à l'hypothèse d'un rituel holocaustique, à savoir le type du sacrifice durant lequel aucun morceau de l'animal n'a servi de nourriture à l'homme, l'animal étant consommé entier.¹²¹ Selon les archéologues et les historiens,

helléniques comme celui d'Apollon Daphnéphoros en Érétie ou d'Ariane-Aphrodite à Amathonte en Chypre (dont la datation s'étend de la période archaïque à la période hellénistique). À Amathonte, l'ensemble du squelette est représenté, mais on note un déficit des vertèbres et des côtes qui demeure constant chez les caprinés le long de la période examinée et laisse supposer que le rachis était transporté ailleurs. D'autre part la surreprésentation des os des membres laisse penser que les animaux étaient dépecés sur place (Columeau 2000, 147–166). Reese (1989) suppose que les parties offertes aux dieux étaient pourvues de flèche.

¹²¹ Dans le concept de *thysiai ageustoi*, c'est-à-dire de sacrifices purificateurs durant lesquels l'animal est rejeté d'une certaine manière (van Straten 1995, 1–9 et 114), les purifications possibles pendant les Mystères à Éleusis et les rites au sanctuaire de Déméter à Mytilène sont intégrées. En revanche, la *trittoa*, un rituel d'engagement, est un groupement d'animaux, non consommés également. Il s'agit du fait de disposer trois animaux (un bovin, un suidé et un ovin ; le sexe change selon le destinataire, dieu olympien ou héros) coupés en deux. Elle est mentionnée dans la littérature, figurée dans l'iconographie, et découverte au nord-est

le rituel holocaustique héroïque¹²² fut observé dans le sanctuaire d'Héraclès dans la montagne d'Oeta,¹²³ des Dédalles dans la montagne de Kithairon en Sterea Hellada¹²⁴ et pendant les Héroxénies Thasiennes.¹²⁵ Mais, c'est l'inventaire des fragments osseux brûlés, décelés, dans le petit sanctuaire de Mélécerte-Palémon, à Isthmie près de Corinthe, qui est concluant.¹²⁶

Membra disjecta

Au cours des dernières décennies, les études sur les ossements d'animaux décelés dans les tombes accompagnant les défunts (*kterismata*) ou suite des repas funéraires aux alentours des fosses ainsi que les fragments issus des aires sacrées (offrandes aux divinités et héros, dîners) se sont multipliées et complètent les témoignages littéraires et iconographiques. Néanmoins, des questions restent ouvertes ; jusqu'à quel point on peut restituer les pratiques rituelles, sur le terrain, mais aussi au laboratoire ? Quelles peuvent être les démarches à suivre pour établir des liens entre l'espace sacré et le monde profane ? Car les analyses soulignent que ce qui appartient au sacré n'est pas toujours facile à appréhender.

Voici quelques critères que la documentation doit préciser :

1. Avoir de bonnes coordonnées stratigraphiques et un échantillon significatif. Les éléments constitutifs et les statistiques à chaque tranche du temps au sanctuaire d'Hermès et Aphrodite à Symi et surtout à celui de Déméter à Cnossos et d'Artémision à Ephèse donnent une autre dimension à la spécification du culte au cours des siècles.¹²⁷

2. Séparer les restes impliqués des déchets purement alimentaires ou artisanaux. Le dégagement des unités de la

Terrace A à Xobourgo ont paru bien utiles, même quand les couches du terrain ne s'y prêtent pas.

3. Intégrer les résultats ostéologiques à l'approche archéologique. La répartition spatiale est obligatoire, car les lieux étaient régulièrement nettoyés, les cendres des foyers étaient déversées dans des fosses, bien des dépôts effectués dans les sanctuaires sont en position secondaire, voire tertiaire (par exemple, la cohérence de chaque lentille et subdivision des dépôts au sanctuaire sur l'acropole de Minoa, à l'intérieur et autour du temple et d'aire sacrificielle à Érétrie et bien d'autres). Les sédiments cendres ne comportent pas toujours des os brûlés. Les différentes concentrations des remblais observées peuvent être le fruit de remaniement ou de nettoyages, plutôt que des dépôts spécifiques, la dilatation du temps est importante, la divinité vénérée peut être honorée par une pluralité des offrandes.

L'étude micromorphologique du sol et celui des charbons qui peuvent dissimuler des grains carbonisés, serait fort utile pour résoudre la question de la finalité du rituel (sacrifices sanglants ou pas).

4. Envisager tous les modalités d'étude des ossements (inventaires exhaustives et études minutieuses) car les sacrifices d'animaux revêtent plusieurs formes qui demandent à être expliquées et éclairées. Il est impossible de se prononcer sur la question de la nature d'un site sans étude ostéologique. La complexité des sociétés humaines comprend, en outre, l'interprétation sociale des pratiques effectuées. Le savoir ne peut être que le fruit d'un travail collectif.

Une fois ce travail accompli, on pourra envisager de se pencher davantage sur la dimension sociale de ces pratiques ; proposer le scénario rituel, suivant le transfert démographique, les pratiques alimentaires collectives ou les personnalisations du rituel, s'intéresser à la survivance des rites, chercher les intentions des personnes.¹²⁸

de l'Agora de Thasos (*ThesCRAI*, 110 avec les sources et les rapports de fouilles ; analyse ostéologique par F. Poplin, Blondé *et al.* 2005).

¹²² Hérodote (2.44) évoque que les héros reçoivent un tel type de sacrifice.

¹²³ Pappadakis 1919, 25–33. Il est connu que Héraclès recevait des sacrifices en holocauste (van Straten 1995, 158 mentionnant une oinochoe à figures rouges ; Mikalson 2010, 113 citant que les Éléens sacrifiaient un bélier noir ; *LS* 151, C 8–9).

¹²⁴ Platon 1951, 151–153 et 157.

¹²⁵ Banquets funéraires qui ont succédé au rituel nocturne holocaustique (Salviat 1958, 254).

¹²⁶ Dans le sanctuaire de Poséidon (VIIe–IVe s. av. J.-C.) à Isthme, plusieurs rituels sont observés. Notre attention se porte sur 3 puits (Ier–fin du IIIe s. ap. J.-C.) liés au culte de Mélécerte-Palémon, mortel qui a accédé au statut divin et qui secourait les marins lors des tempêtes. Il a reçu des sacrifices (bovins, caprinés) en holocauste (Gebhard & Reese 2005).

¹²⁷ Sur l'ensemble des données du sanctuaire de Déméter et la précédente de l'ensemble, voir Hägg 1998, 50–51 ; sur Artémision, Bammer 1998. Les énoncés sur le sanctuaire d'Hermès et d'Aphrodite reposent sur mes propres recherches.

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¹²⁸ Les repas funéraires ont survécu au monde chrétien. Les mets étaient consommés sur place à la mémoire du défunt ou étaient partagées avec le défunt.

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Bones and the body politic?

A diachronic analysis of structured deposition in the Neolithic–Early Iron Age Aegean

Abstract

The meanings of the terms “ritual” and “sacrifice” are discussed as a basis for considering whether and how animal bones might be recognized as remnants of ritual behaviour or sacrifice. These methodological issues are explored “in practice”, taking structured deposits of burnt bones from the Mycenaean “Palace of Nestor” at Pylos as a case study. The paper then places this and other apparent examples of Mycenaean animal sacrifice in a wider context, by examining zooarchaeological evidence for anatomically selective manipulation and for deliberate or “structured” deposition of animal bones from the Neolithic to Early Iron Age in the Aegean. It is argued that anatomically selective treatment and structured deposition of bones increase through time and that these tendencies are matched by changes in the treatment of human remains, in the form and deposition of ceramics associated with commensality, and in architectural organization of space. These trends reflect not only increasing elaboration of material culture but also increasing qualitative, spatial and temporal differentiation of social life. Although the precise form and meaning of Mycenaean sacrificial ritual may be difficult to discern, its material traces mirror and probably helped to promote radical social change during the Aegean Bronze Age.

Definitions: “ritual” and “sacrifice”

As a prelude to any attempt at using “zooarchaeological evidence as a source for Greek ritual practice”, it is necessary to consider the methodological potential and problems of inferring ritual practice from bones and this in turn requires prior clarification of the meaning of the terms “ritual” and “sacrifice”.

The *Oxford English Dictionary* assigns three overlapping meanings to “ritual”:

- 1) a religious or solemn ceremony involving a series of actions performed according to a set order;
- 2) a set order of performing such a ceremony;
- 3) a series of actions habitually and invariably followed by someone.

The focus of this conference, and indeed most archaeological discussion of the term, is limited to the first and second of these, but the third meaning implicitly recognizes that “ritual” permeates even aspects of daily life that are devoid of solemn religious ceremony. This broader definition has important implications for the archaeological recognition of ritual practice.¹ Rappaport similarly emphasizes the standardized nature of “ritual” as “the performance of more or less invariant sequences of formal acts and utterances”.² Ritual is again a core (though not exclusive) component of “religion [that] denotes the domain of the Holy, the constituents of which include the sacred, the numinous, the occult and the divine, and also ritual, the form of action in which those constituents are generated”.³ Whereas invariant and formal acts and utterances play a secondary role to more flexible behaviour on an everyday basis, they increasingly dominate ceremonies of greater solemnity.⁴ Inflexibility thus marks out solemn ceremony by inverting everyday behaviour, a principle often repeated in the spatial or temporal segregation of solemn ceremonies, in rituals of purification or abstinence, in changes of

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¹ E.g., Hill 1994.

² Rappaport 1999, 24.

³ Rappaport 1999, 23.

⁴ Rappaport 1999, 34–35.

dress, and in exaggerations or distortions of mundane acts.⁵ Some anthropologists have further argued, echoing common usage in the English language, that “ritual” refers to acts of a symbolic rather than practical nature—“in which the relationship between means and ends is not intrinsic” (i.e., not explicable in terms of modern western science).⁶

The Oxford English Dictionary defines “sacrifice” as:

- 1) the practice or an act of killing an animal or person or surrendering a possession as an offering to a deity;
- 2) an animal, person, or object offered in this way;
- 3) an act of giving up something one values for the sake of something that is of greater importance.

In the cultural context of early historical Greece, sacrifice is normally taken to mean the killing of an animal⁷ and it is of course this sense of the term that justifies the strong representation of zooarchaeologists in this volume. Again, however, the third meaning (giving up something valued) may have important implications for (zoo)archaeological recognition of sacrifice.

Early Greek animal sacrifice was highly ritualized, with great emphasis on performance of its constituent steps in the appropriate (time-honoured) sequence and manner.⁸ Sacrifice re-affirmed the covenant between men and gods, re-enacted the distinction between men (eaters of cooked meat) and animals (eaters of raw flesh) and symbolized the order of civilized society.⁹ We return below to these broader values that were intrinsic to sacrifice in early historic Greece.

Methodological considerations

On the principle that rituals involve a relatively invariant sequence of acts,¹⁰ faunal remains may suggest ritual activity if they exhibit more or less standardized selection of animal types, butchery practices or disposal practices. Although the distinction between symbolically and practically inspired behaviour is contentious, the case for regarding regularities in faunal composition as shaped by ritual is clearly weakened if these could equally be the result of post-depositional taphonomic distortion¹¹ or of pre-depositional anatomical constraints on butchery procedure. Fortunately, the skeletal structure of different animals, and the ways in which this re-

sponds to taphonomic processes or lends itself to butchery, is much more predictable than is the case with most artefacts,¹² facilitating the identification of behaviour that may be attributed to cultural or symbolic rather than practical reasoning or taphonomic processes. A particularly clear example of this principle, arguably the osteological equivalent of celestial alignments in architecture, is the left:right symmetry of vertebrate skeletons, as a result of which consistent overrepresentation of bones from one side of the body can confidently be attributed to symbolically-driven behaviour.

In early historic Greece, as in contemporary Jewish and Muslim culinary practice, the slaughter of domestic animals for consumption was a strongly ritualized rather than merely practical act.¹³ The same may well be true for the preceding Neolithic, Bronze Age and Early Iron Age, given the dramatic nature of slaughter, its obvious similarities with violent homicide, and the probability that meat was not a major or regular component of human diet.¹⁴ It follows that zooarchaeologists may be investigating not *whether*, but *how*—or *how ostentatiously*—the slaughter, consumption and discard of animals was ritualized. Of course, the potential for such analysis depends greatly on discard patterns: recognition of a solemn ceremony involving the highly standardized slaughter of ten animals of identical species, sex and age will be easy if their carcasses were buried rapidly (hence protected from taphonomic distortion) and apart from more mundane refuse, but perhaps impossible if their remains were exposed to scavenging dogs and weathering and then scattered widely among other refuse. Here we must hope, not unreasonably, that infrequent ceremonies of great social or religious import are more likely to be segregated in time and space, and more likely to be followed by deliberate disposal of debris, than more frequent events of limited significance. Likewise, it is reasonable to hope that more significant ceremonies will tend to be marked by choice of animals or carcass processing methods that are absent or scarce from more mundane depositional contexts.

With rapid deposition and good contextual resolution, therefore, bones offer considerable potential for the recognition of ritualized or ceremonial slaughter and consumption of animals. Recognition of such episodes as representing “sacrifice” (as opposed to, say, feasting) is more challenging. One could counter such caution with the argument that all episodes of slaughter were sacrificial, but this should be demonstrated rather than assumed, especially for the Neolithic–Early Iron Age, when relevant textual evidence is lacking.

⁵ Rappaport 1999, 50.

⁶ Rappaport 1999, 47–48; Goody 1961, 159.

⁷ E.g., Burkert 1983.

⁸ Durand 1989a; 1989b.

⁹ Detienne 1989; Vernant 1989.

¹⁰ Also Renfrew 1985, 14.

¹¹ E.g., Wilson 1992; Gamble 1985.

¹² Binford 1978; 1981; Brain 1981; Lyman 1994.

¹³ Detienne 1999, 8.

¹⁴ E.g., Triantaphyllou 2001; Papathanasiou 2003; Halstead 2007, 26–27.

Contextual associations (for example, in a sanctuary or next to an altar) ostensibly strengthen the case for a sacrificial interpretation, but at the risk of circular argument regarding both the identification of particular structures and the spatial location of particular rituals.¹⁵ More positively, consideration of the age and sex of slaughtered animals (in the context of local patterns of animal husbandry) and analysis of carcass treatment offer scope for the recognition of “sacrifice”, in the broad sense of giving up something valued, and this might be accepted as evidence in favour of sacrifice (*sensu stricto*) rather than feasting, although the modern Greek guideline on festive catering (“if it is not too much, it will not be enough”) underlines the need for caution.

A case study: burnt bone “sacrifice”(?) at the Late Bronze Age “Palace of Nestor”, Pylos

A large assemblage of animal bones from the Late Bronze Age “Palace of Nestor” is fairly typical of faunal debris from Bronze Age settlements in Greece, comprising remains of all parts of the body of a range of species, ages, and sexes of primarily domestic animals (with sheep and pigs heavily outnumbering cattle and goats). Traces of knife marks show that carcasses had been skinned, dismembered and filleted (stripped of meat) and most of the larger limb bones, especially of cattle, had then been deliberately broken open, presumably to extract their marrow. Much of the bone had been lightly heated to facilitate marrow extraction, but very little was heavily burnt. Some of the bone was buried rapidly enough for some articulating joints to be found together, but some had been exposed long enough to be gnawed by dogs.¹⁶ Against this background of a *typically heterogeneous* faunal assemblage, a handful of groups of bone clearly differed in composition, to the extent that the excavators stored them separately. These groups were composed almost entirely of heavily burnt bones from three parts of the skeleton (mandible, humerus and femur) of just cattle and deer. The effects of burning and of resulting recent breakage (in excavation and/or storage) have largely obscured the age and sex of the animals represented, but the best preserved group seems to include several large (presumably male) adult cattle, in marked contrast to the rest of the faunal assemblage in which most adults were smaller females. Butchery marks again confirm dismembering and filleting of these bones, but there is no

trace of marrow extraction; bones were apparently deposited intact.¹⁷ Four of these groups of burnt bones were buried on the northwest periphery of the palace, while a fifth was found on the floor near a main entrance, perhaps awaiting final burial;¹⁸ in each case, careful deposition of the group of burnt bones minimized mixing with other bone refuse and facilitated recognition of their other distinctive characteristics.

These five groups bear all the hallmarks of important ritual activity: taxonomic and anatomical composition, butchery marks and depositional history reveal the repeated execution of a largely uniform sequence of selective slaughter, selective carcass treatment and careful disposal. The selection of particular body parts from cattle (perhaps male) and deer, their wholesale burning without extraction of marrow, and their separate disposal all mark a sharp contrast with the rest of the faunal assemblage, arguably identifying these groups as the remains of infrequent rituals of high importance. Significantly, the particular set of anatomical parts selected cannot be accounted for by any plausible taphonomic process, nor is it a likely outcome of carcass processing involving the separation of “high-utility” from “low-utility” parts.¹⁹ Separate disposal further suggests that these rituals were indeed segregated in time and/or space, while finds associated with the unburied group on the floor near the entrance to the palace can plausibly be read as evidence of some form of performance.²⁰ Perhaps significantly,²¹ both the latter group, placed (temporarily?) on the floor near the entrance, and those buried on the edge of the palace were found in what might be classified as *liminal* locations.

These bone groups bear such striking similarity to zooarchaeological remains and written or iconographic representations of early historic burnt sacrifice of selected defleshed body parts, that it is hard to avoid interpretation in terms of sacrifice, but this again risks circular argument.²² The spatial contexts of discovery of these groups fit at least as well with feasting as with sacrifice,²³ but the unusually wasteful burning (involving sacrifice—in the sense of giving up—of marrow) of an arbitrary recurrent set of body parts is at least suggestive of the offering of part of the carcass to non-human consumers (followed, presumably, by feasting on the remainder of the carcass—below). If this suggestion of burnt sacrifice is accepted, it contributes to an emerging picture of *variable* Mycenaean sacrificial practice, based on the scarce available zooarchaeological evidence from Pylos, from Ayios Kon-

¹⁵ Cf. Bergquist 1988; Whittaker 2008, 183.

¹⁶ Halstead & Isaakidou in preparation.

¹⁷ Isaakidou *et al.* 2002; Halstead & Isaakidou 2004.

¹⁸ Stocker & Davis 2004, 60, fig. 1.

¹⁹ E.g., Binford 1978; O'Connor 1993; *contra* Whittaker 2008, 187.

²⁰ Stocker & Davis 2004.

²¹ Cf. van Gennep 1960; Renfrew 1985, 16–17.

²² Cf. Renfrew 1985, 3.

²³ E.g., Bendall 2004; Bennet & Davis 1999.

stantinos on Methana,²⁴ from Mycenae²⁵ and perhaps from Kalapodi.²⁶ The bone groups from Pylos are also of interest because they extend the history of burnt bone sacrifice in the Aegean back to the Late Bronze Age, arguably weakening the case for regarding early historical burnt bone sacrifice as an introduction from the East Mediterranean.²⁷ There is still a lengthy hiatus, however, between the Late Bronze Age and Archaic–Classical examples of this practice, so claims of continuity would perhaps be premature. Anyway, as Christian adoption of earlier rites and festivals illustrates, continuity of ritual practice need not indicate continuity in beliefs.²⁸

The remainder of this presentation leaves aside the issue of (dis)continuity in sacrificial practice and the difficult methodological problems of distinguishing sacrifice or religious liturgy from other forms of ritualized ceremony. Instead, we attempt to place the ritual activity represented by the Pylos burnt bone groups in a broader chronological and thematic context.

Late Bronze Age animal sacrifice in diachronic perspective: anatomical manipulation and structured deposition in the Aegean, 7th–2nd millennium BC

In recent years, publications (many by other contributors to this volume) of faunal assemblages from Archaic and Classical sanctuary contexts in Greece, Cyprus and western Turkey have routinely presented evidence for the selective deposition and/or selective treatment (notably by burning) of particular body parts of animals. Selective anatomical treatment in such contexts is also well known from literary²⁹ and iconographic³⁰ sources, while discrete disposal of sanctuary refuse has long been known archaeologically in the case of dumps of votive artefacts. Such contexts are less common, or at least more ambiguous, from the Bronze Age, but there is recurrent evidence of both anatomically selective manipulation and deliberate or “structured” deposition of animal bone. Both practices are evident in the Ayios Konstantinos sanctuary and in the burnt bone groups from Pylos, and more or less elaborately structured deposits have been encountered in most of

the Bronze Age and Final Neolithic settlement assemblages from Greece examined by the present authors:

- Knossos, Crete: a Middle Bronze Age (MB) group of articulating vertebrae of sheep/goat in a deposit also containing miniature vessels;³¹ articulating carcass parts of pig, goat and cattle from a Late Bronze Age (LB) pit;³² articulating parts of a horse and two young dogs from the LB “Unexplored Mansion”;³³ and young dog skeletons from Final Neolithic (FN) deposits;³⁴
- Nemea-Tsougiza, Peloponnese: LB selective deposition of cattle heads and feet associated with “shrine” dumps;³⁵ Early Bronze Age (EB) part-skeletons of infant piglets;³⁶
- Mitrou, Central Greece: a partly articulated young pig associated with LB architecture;³⁷ and thigh bones (femurs) of several infant and young piglets found within a LB krater;³⁸
- Proskunas, Central Greece: EB “burials” of individual butchered and consumed cattle;³⁹
- Mikrothives, Thessaly: FN–EB “burials” of part-carcasses of single butchered and consumed cattle;⁴⁰
- Assiros Toumba, Central Macedonia: LB articulated limbs in postholes, probably representing offerings or commemorated consumption events associated with house construction.⁴¹

Similar finds are reported from several other settlement assemblages studied by colleagues:

- Chamalevri, Crete: anatomically selective deposition of butchered pig carcasses in LB pits;⁴²
- Chania, Crete: the skeleton of a dog and butchered skeletons or part-skeletons of several pigs, cattle, sheep, goats and fallow deer on a pyre in a courtyard and on the floors of adjacent rooms in the LB Splantzia “sacred area”;⁴³

²⁴ Hamilakis & Konsolaki 2004.

²⁵ Albarella in preparation.

²⁶ Stanzel 1991.

²⁷ Bergquist 1988; 1993.

²⁸ E.g., Hamilakis & Konsolaki 2004, 144.

²⁹ E.g., Hom. *Od.* 3.447–463.

³⁰ E.g., van Straten 1995.

³¹ Isaakidou in preparation, in MacDonald & Knappett in preparation.

³² Isaakidou 2004.

³³ Bedwin 1984.

³⁴ Triantaphyllou 2008, 144; Isaakidou in preparation.

³⁵ Dabney *et al.* 2004.

³⁶ Halstead 2011a.

³⁷ Vitale 2008, 236.

³⁸ Van de Moortel 2009, 362.

³⁹ Zahou 2009, 169–170; Halstead & Isaakidou unpublished report.

⁴⁰ Adrymi-Sismani 2007; Halstead & Isaakidou in preparation.

⁴¹ Halstead in preparation.

⁴² Mylona 1999a.

⁴³ Mylona 1999b.

- Thronos-Kephala, Crete: butchered parts of a single cow, a cattle skull and a pair of goat horns in three LB pits with rapidly accumulated fills;⁴⁴
- Tiryns, Peloponnese: one part- and one near-complete LB skeleton of young pigs;⁴⁵
- Pevkakia, Thessaly: seven right femurs of young pigs from an LB house; FN part-skeletons of three young cattle and of one adult and one young pig;⁴⁶
- Kastanas, Central Macedonia: of Early Iron Age (EIA) date, a nearly complete articulated puppy deposited in a house and the head of a little owl (*Athene noctua*) placed in a miniature jug.⁴⁷

In addition, structured depositions of whole or part-carasses of animals are not uncommon in Bronze Age mortuary contexts. At Myrtos-Pyrgos on Crete, late EB–early LB depositions in the “House Tomb” include an infant piglet, articulating feet of dog and goat and forelimb of sheep, and a group of goat horncores.⁴⁸ In MB–LB central and southern Greece, dogs⁴⁹ and horses,⁵⁰ and also other domesticates,⁵¹ were buried intact or butchered in graves, while remains of donkeys at Dendra probably represent secondary reburial from similar depositions.⁵² At LB Faia Petra in Central Macedonia, a series of LB tombs with evidence of secondary funerary manipulation of human remains was accompanied by structured depositions of individual animals (two subadult sheep and a young cow) that had been butchered prior to burial.⁵³ Skulls of both domestic and wild animals were occasionally deposited in LB graves in the Peloponnese⁵⁴ and both a bovine skull and a butchered horse were buried in a LB tomb at Archanes on Crete.⁵⁵ Anatomical selection in a funerary context is also known at EIA Theologos on Thasos, where right femurs of cattle and horse were deposited in graves.⁵⁶ Even more strikingly, the same body part, of cattle and sheep/goats, respectively, was used to manufacture “palettes” and pigment tubes

(and in the former case inspired stone skeuomorphs) deposited in Early Cycladic graves.⁵⁷

This list of examples of structured depositions of animal bones makes no pretence at being complete and quantified assessment of the frequency of such behaviour is difficult: even where such depositions took place and survived post-depositional destruction or disturbance, they might be overlooked if the bones were presented to the zooarchaeologist either piecemeal or mixed with material from other contexts; and analysts doubtless differ in the strength of the evidence for structured deposition that they consider worthy of comment. Nonetheless, it is clear that some form of structured deposition, involving the deliberate burial of individual animals (intact or butchered), the more or less separate disposal of bones from particular stages of carcass processing, or the manipulation of particular body parts, was widespread on Final Neolithic and Bronze Age settlements and in Bronze Age funerary contexts.

To some extent, these observations can be paralleled in EN–LN contexts from Greece. Horses and donkeys are not securely attested from the Neolithic, but dogs, though often butchered like other animals, were sometimes buried or at least discarded intact: for example, at LN Dimini in Thessaly⁵⁸ and LN Makriyalos in Central Macedonia.⁵⁹ In the latter region, at LN Promachon-Topolnica, concentrations of horned cattle skulls indicate selective display of this body part, while two house models suggest that—as in Turkey and the Balkans—such skulls adorned the facades of buildings.⁶⁰ Horns of cattle and goats likewise appeared to have been placed deliberately in the circuit ditches and some pits at LN Makriyalos⁶¹ and animal crania were selectively deposited in a MN circuit ditch at Paliambela-Kolindrou. Neolithic bone tools from some sites exhibit some fairly consistent selection of body parts, such as sheep/goat distal tibia for manufacture of spatulae⁶² and sheep/goat distal metatarsal for awls.⁶³ Both bones seem well suited, morphologically, to the end product, but occasional use of other bones for these tools and of these bones for other tools, and regional differences (within the Aegean and further afield) in such use of raw materials, suggests that cultural as well as practical reasoning played a part in selection of raw materials. Similarly, selective avoidance of bones of large wild animals, in favour of those of domesticates and small game, as raw materials for bone tools at LN Makri-

⁴⁴ D’Agata 2001; Mylona in preparation.

⁴⁵ Von den Driesch & Boessneck 1990, 102.

⁴⁶ Jordan 1975, 33–34 and 87–88.

⁴⁷ Becker 1986, 88 and 219.

⁴⁸ Isaakidou in preparation.

⁴⁹ Hamilakis 1996; Trantalidou 2006, 100–101, Tables 3–4.

⁵⁰ E.g., Boessneck & von den Driesch 1984; Protonotariou-Deilaki 1990.

⁵¹ E.g., Demakopoulou 1990, 121, fig. 21.

⁵² Pappi & Isaakidou in press.

⁵³ Valla 2007; Valla *et al.* 2013.

⁵⁴ E.g., Trantalidou 2006, 100, table 3.

⁵⁵ Sakellarakis & Sakellarakis 1997, 263–265.

⁵⁶ Halstead & Jones 1992.

⁵⁷ Isaakidou in preparation.

⁵⁸ Halstead 1992, 34, Table 1b.

⁵⁹ Pappa *et al.* 2004, 21.

⁶⁰ Koukouli-Chryssanthaki *et al.* 2007; Trantalidou & Gkioni 2008.

⁶¹ E.g., Pappa 2008, 150–151, 242, 253 and 266.

⁶² E.g., Skotini Cave, Tharounia: Stratouli 1993, 500–506, figs. 1 and 3–5.

⁶³ E.g., Skotini Cave, Tharounia: Stratouli 1993, 508–517, figs. 10–15.

yalos contrasts sharply with the picture from some Bronze Age sites in the same region and may plausibly be attributed to cultural rather than practical reasons.⁶⁴

Unsurprisingly, therefore, there is evidence that animal carcasses and body parts carried symbolic significance in the Early to Late Neolithic, as in the Final Neolithic, Bronze Age and later periods. The LN flat-extended site of Toumba Kremastis-Koiladas in Western Macedonia has yielded a series of ditches and pits with an exceptional wealth of evidence for structured deposition of artefacts, architectural fragments, human and animal remains.⁶⁵ With the notable exceptions of Toumba Kremastis-Koiladas and of dog depositions at a few other sites, however, bone groups that can be attributed to a single animal or to a restricted range of body parts seem strikingly less commonplace than in the Final Neolithic and Bronze Age. As has already been noted, quantification of such observations is extremely difficult, but comparison with methods of disposal of human remains presents a very similar picture and, arguably, lends credibility to the distinction claimed here.⁶⁶ Whereas inhumation, whether singly or in groups, seems to be the normal form of burial through the Bronze Age,⁶⁷ it is becoming increasingly clear that individual inhumations or cremations are the exception in the Neolithic and that most human bodies were not only subjected to secondary manipulation (also common in the Bronze Age) but were routinely scattered, as if to emphasize collective over more individual identity. At LN Makriyalos, scattered human bone fragments were almost ubiquitous among the faunal remains, but this ubiquity was by no means the result only of unintended post-depositional mixing, as human remains were not found in the massive dump of “feasting” debris in Pit 212 which has alone yielded more animal bone than most sites in the prehistoric Aegean.⁶⁸ Restorable pots⁶⁹ and more or less intact dog skeletons imply that the fill of Pit 212 accumulated rapidly, but almost no paired or articulating bones were noted and anatomical selection (as in other contexts at Makriyalos) was limited to some possible under-representation of foot bones; the latter could imply that primary butchery and skinning were sometimes separated temporally and/or spatially from further carcass processing and consumption, but foot bones may simply have been left attached to the hide (as is common today). Otherwise, Pit 212 represents meat consumption on a scale perhaps unmatched in the later Bronze Age palaces, but largely lacking the concluding

structured deposition so typical of later periods. The ceramics from Pit 212 tell a similar story: consumption took place on a massive scale and included some apparently high-value beverages,⁷⁰ but the standardization of cooking and especially serving vessels signalled equality and cohesion rather than the overt status distinctions encoded in later palatial tableware.⁷¹ Likewise, whereas Bronze Age serving vessels for liquids tend to have more or less elaborate spouts that emphasize the asymmetry of the relationship between server and served,⁷² jugs from Makriyalos and other LN sites lacked spouts.⁷³ Finally, just as anatomical composition of faunal material suggests little spatial/temporal segregation of successive stages of carcass processing, Neolithic ceramic assemblages largely lack the obvious “cooking wares” that are readily identifiable in the Bronze Age; indeed some vessels apparently used for cooking at Makriyalos would typologically be categorized as tableware.⁷⁴

Neolithic–Bronze Age structured deposition and the body politic

That Neolithic material culture is far less overtly inegalitarian than that of the Bronze Age is neither a novel nor a surprising statement, though it must be stressed that the overtly egalitarian façade of the Neolithic probably concealed active social competition—not least, probably, in provision of carcasses for commensal consumption. Perhaps less widely appreciated is that this contrast is paralleled in the contrasting ways in which food and drink were prepared for consumption in the Neolithic and Bronze Age. In the Neolithic, the lack of distinctive cooking ware played down the distinction between preparation and consumption of food and the more mixed or homogenous nature of faunal deposits arguably reflects the same thing. In the Bronze Age, tableware and cooking ware tend to be more readily distinguishable and primary butchery is often marked off from subsequent carcass processing by removal not only of the hide and feet, as in the Neolithic, but also of the symbolically charged head with the highly edible tongue, brain and eyes. As with the use of spouted pouring vessels, the separation of primary from secondary butchery and of cooking from consumption served to distinguish not only between stages in the commensal *chaîne opératoire* but also, potentially, between different sets of participants. The

⁶⁴ Isaakidou 2003.

⁶⁵ Hondrogianni-Metoki 2001; Triantaphyllou in preparation; Tzevelekidi 2012.

⁶⁶ Cullen 1999; Talalay 2002; Triantaphyllou 1999; 2008.

⁶⁷ Nakou 1995; Cavanagh & Mee 1998.

⁶⁸ Triantaphyllou 1999; Pappa *et al.* 2004.

⁶⁹ Urem-Kotsou 2006.

⁷⁰ Urem-Kotsou *et al.* 2002; Urem-Kotsou & Kotsakis in press.

⁷¹ Pappa *et al.* 2004; Urem-Kotsou & Kotsakis 2007.

⁷² E.g., Day & Wilson 2004; Catapoti 2011.

⁷³ Urem-Kotsou 2006.

⁷⁴ Urem-Kotsou 2006.

point may be illustrated by the events represented by the burnt bone groups at LB Pylos. For practical reasons, very few persons can have participated in (as opposed to witnessed) the slaughter and butchery of these cattle and the small cache of miniature cups found with the bone group located at the entrance to the elite core of the palace perhaps indicates that no more than twenty or so persons took part in these stages.⁷⁵ On the other hand, the amount of meat made available by the numbers of cattle apparently killed in at least the largest episode could have fed hundreds or even thousands of diners.⁷⁶ The pantries of the palace also suggest provision for hospitality to hundreds of persons, with guests of varying status entertained in different parts of the palace,⁷⁷ so that palatial banqueting performed and reaffirmed the social structure and social relationships of the Pylian polity.

Against this background, the Bronze Age penchant for structured deposition served both to add a further formal stage—that of discard—to the commensal cycle and, by this act of closure, to emphasize individual episodes of commensality.⁷⁸ The sheer volume of ceramic and faunal debris in the “feasting” dumps at Makriyalos, in Pits 212 and 214, must surely represent cycles rather than individual episodes of feasting, a suggestion supported by indications that domestic animals in Pit 212 were probably slaughtered over a period of months.⁷⁹ Whether or not the fills of Pits 212 and 214 were intended to serve a memorial function (above-ground dumps would arguably have been more eye-catching), the contrast between LN Makriyalos and palatial banqueting at LB Knossos or Pylos is one between quantitative and qualitative display.⁸⁰

Bronze Age structured deposition of animal (part-)carcasses may thus be seen as part of a broader and all-pervasive tendency to differentiate social life—temporally, spatially and qualitatively. First, artefacts too were commonly subject to structured deposition in the later Bronze Age⁸¹ and Early Iron Age.⁸² Secondly, the same diachronic trend is arguably apparent in architecture. Neolithic “houses”, whether or not representing “households”, were usually single-roomed structures or perhaps groups of rooms with independent points of access.⁸³ Neolithic settlements were thus designed to facilitate three levels of social distinction: outside the settlement; inside the settlement, but outdoors; and indoors. The divi-

sion of some LN settlements into “residential wards” added a fourth level.⁸⁴ A few LN buildings, such as the central *megaron* at Dimini or Sesklo added the potential for graded access from an open porch to an outer then an inner room⁸⁵ and multi-room buildings with potentially graded access became increasingly common and increasingly elaborate through the Bronze Age, especially in southern Greece.⁸⁶ Lastly, such spatial segregation and specialization is replicated on a landscape scale, with the later Bronze Age appearance of “peak sanctuaries” at some remove from settlement sites and—of course—characterized by structured deposition of distinctive types of artefacts.⁸⁷

Conclusion

Animal bones offer exceptional potential for the investigation of collective ritual activity for four quite different reasons. First, in small-scale societies where carcass processing is not concealed from public view, the preliminary act of slaughter that inevitably preceded meat consumption was probably imbued with intense emotion and some sense of ritual danger.⁸⁸ Secondly, in ancient Greece, the probable infrequency of meat consumption and the fact that most slaughtered animals were inconveniently large for individual or household consumption favoured an important *social* role for meat consumption. Thirdly, because the anatomical structure of vertebrate skeletons and the anatomical distribution of edible matter (as opposed to the cultural value assigned to different portions)⁸⁹ are very predictable, as are the effects of taphonomic processes, the potential for detecting human manipulation of carcasses according to cultural or symbolic codes is fairly high. Fourthly, the human (and, by extension, non-human) body often serves as a metaphor for the body politic.⁹⁰

Zooarchaeological identification of some ritual activity as *sacrificial* is more challenging. In the case of Classical sanctuaries, written and iconographic evidence from the same cultural context matches zooarchaeological evidence sufficiently closely that the latter can be identified as remains of sacrifice, allowing elucidation of further details of the rituals. In the case of LB Mycenaean Greece, identification of faunal

⁷⁵ Stocker & Davis 2004.

⁷⁶ Halstead & Isaakidou 2004.

⁷⁷ Bendall 2004; Whitelaw 2001a.

⁷⁸ Cf. Hamilakis 2008, 15–17.

⁷⁹ Pappa *et al.* 2004; Halstead 2005; Urem-Kotsou 2006.

⁸⁰ Killen 1994; Wright 1996; 2004; Isaakidou 2007.

⁸¹ E.g., Boulotis 1982; Carter 2004; Driessen *et al.* 2008; Hatzaki 2009.

⁸² E.g., Wells 1988.

⁸³ E.g., Kotsakis 2006.

⁸⁴ Hourmouziadis 1979.

⁸⁵ Theocharis 1973.

⁸⁶ Peperaki 2004; Whitelaw 2001b; Maran 2006; Panagiotopoulos 2006; Thaler 2002; 2006; Wright 2006.

⁸⁷ E.g., Peatfield 1992.

⁸⁸ Cf. Douglas 1966.

⁸⁹ E.g., Sahlins 1976.

⁹⁰ Hamilakis *et al.* 2002.

material as results of sacrifice largely rests on contextual association at Ayios Konstantinos (Methana) and Mycenae and on striking similarity with later practice at Pylos. All three identifications are plausible, but not unassailable and should certainly not raise false hopes as to what can be inferred in less privileged contexts. Anyway, sacrifice, even in a religious sense, carries a range of specific meanings,⁹¹ which are not easily disentangled from material remains alone. Conversely, as Hamilakis and Konsolaki note, the social and political significance of these rituals may be more easily inferred: the large-scale and relatively public ceremonies at Pylos contrast with the small-scale and relatively private rituals celebrated within the sanctuary of Ayios Konstantinos, providing some sense of the varying forms and contexts of ritual activity within Mycenaean society.⁹²

Here, we have attempted to pursue a similar approach diachronically, arguing that the wealth of zooarchaeological evidence for ritual treatment and structured deposition of animal remains from the Bronze Age Aegean marks a sharp contrast with that from much of the Neolithic. This contrast is echoed in the treatment and disposal of human remains, in architecture and in portable material culture. Much of the architectural, mortuary and material cultural record of the Greek Neolithic can be read in terms of a tension between domestic and collective solidarity, probably heightened by active social competition, but overall collective solidarity is emphasized and social asymmetries are played down.⁹³ Bronze Age social life was subject to far more material prompts: from forms of dress that distinguished individuals of contrasting rank; from tableware that drew similar distinctions and also highlighted the asymmetry between host and guest; from elaborate demarcations of space and time that controlled access to different aspects of social life. Bronze Age evidence for ritualized treatment and structured deposition of animal remains thus mirrors fundamental and long-term changes in human society in the Aegean.

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⁹¹ Hamilakis & Konsolaki 2004, 144–145.

⁹² Hamilakis & Konsolaki 2004, 145–147.

⁹³ Kotsakis 1999; 2006; Tomkins 2004; 2007; Nanoglou 2008; Halstead 2006; 2011b.

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Hittite animal sacrifice

Integrating zooarchaeology and textual analysis

Abstract*

In 2008, the disarticulated remains of a young male sheep skeleton deposited within a small Late Bronze Age pit were recovered at Kilise Tepe in south-central Turkey approximately 40 km inland from the Mediterranean coast. The pit, which exclusively contained the sheep skeleton, was located within a building whose size, design and artefactual contents indicate it was associated with ritual activity. The lack of disturbance to the pit and excellent state of preservation of the bones suggest elements that are missing were not originally deposited. The carcass was thoroughly dismembered, disarticulated and filleted prior to deposition. Contextual analysis of these skeletal remains provides a significant opportunity to move beyond the limits of textual analysis when studying Hittite animal sacrifice. By demonstrating the benefits of zooarchaeological analysis conducted in a context-specific fashion this paper offers the beginnings of a methodology for Anatolian specialists interested in examining ritual behaviour. More than a simple case study, this article combines two separate strands of archaeological evidence to investigate the complex issue of Hittite animal sacrifice.

Introduction

Everything known about Hittite animal sacrifice has been learned through textual analysis. Despite their importance, there are inherent limitations in the analysis of all ancient texts including ambiguities of translation, assumed knowledge of the original audience, focus of the narrative, and simple rarity. Limitations also exist stemming from the interests of modern researchers. To date, Hittite texts describing rituals, festivals and feasting events involving animal sacrifice have been examined to determine the role of cult and priesthood in society, the nature and timing of particular festivals and the understanding of deities and their relationship with

humans¹ but rarely has attention been turned to the animals themselves, with the exception of work done by Collins² and Mouton.³ This reliance on textual analysis can be limited by engaging primary archaeological evidence, as demonstrated successfully elsewhere, particularly in Greece (as amply demonstrated in this volume). Detailed analyses of skeletal remains and their depositional context will extend our understanding of Hittite animal sacrifice.

Few zooarchaeological reports have been published from Hittite Empire (Late Bronze Age=LBA) and Neo-Hittite period sites (Early Iron Age=EIA), and none discuss individual contexts or sacrifice and feasting events⁴ with the exception of a briefly reported piglet burial from Yazılıkaya.⁵ To address the lack of available data and encourage future publications, this paper uses a case study of a disarticulated but almost complete young sheep skeleton deposited within a small LBA pit inside a building with ritual associations from Kilise Tepe, to demonstrate how zooarchaeological data, combined with textual analysis, increases knowledge of Hittite animal sacrifice. In a forthcoming article Mouton states that for the understanding of Hittite animal sacrifice to move forward, beyond traditional textual analysis we must examine “à la loupe les informations issues de l’archéologie, et plus particulièrement de la zoo-archéologie”.⁶ To that end the site, the context of the pit, and the zooarchaeological material are presented in detail prior to a consideration of relevant texts. Only then can we link the facts of the archaeological data

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¹ Cf. Beckman 1983; 1990; Gurney 1976; Miller 2004; Singer 1983.

² Collins 1990; 2002; 2006a; 2006b.

³ Mouton 2004; 2005; 2007; 2008; forthcoming.

⁴ Deniz, Çalışlar & Özgüden 1964; Driesch & Pöllath 2003; Hongo 1997; 2003; 2004; Howell-Meurs 2001; Ikram 2003; Patterson 1937; Zeder & Arter 1994.

⁵ Hauptmann 1975, 65.

⁶ Mouton forthcoming.

with the potentiality of the texts to reconstruct the process of animal sacrifice and deposition.

Kilise Tepe

Kilise Tepe is a small mound site measuring approximately 100×110 m at its summit, located in south-central Turkey approximately 40 km inland from the Mediterranean coast in western Cilicia (Fig. 1). The site dominates the south-eastern exit from the Mut basin on one of the few routes through the Tarsus Mountains towards the coast, and it also controls the local ford of the Göksu river,⁷ an important east–west route leading towards Gülnar and the west.⁸ Occupation of the site, thought to be an administrative and military centre, dates from the Early Bronze Age (EB II 2700–2400 BC) through to the Byzantine period (up to AD 1200), though occupation is not continuous. Kilise Tepe is particularly important for the study of Hittite occupation in south-central Turkey due to the lack of contemporaneous sites in the region; occupations are known only from Mersin and Tarsus. Neither of these sites has published zooarchaeological data, though a significant catalogue of bone objects⁹ has been published from the original Tarsus excavation and renewed excavations promise to deliver important environmental data.¹⁰ The sheep burial identified as the remains of a sacrifice is associated with Phase IIa dating towards the end of the LBA (approximately 1275 BC).

Stele Building

In the north-west sector of the site stands a large (18×14 m) building (Fig. 2), dubbed the Stele Building after a painted sandstone stele was recovered from its central room (Room 3), that has been interpreted as having a ceremonial, ritual, or at the very least public function.¹¹ The building is not a temple, as such, and many of its rooms served utilitarian functions including storage of foodstuffs, but neither is it domestic. Two rooms are of particular interest and are briefly described below.

Room 3

The large central room of the building contained a central hearth measuring 80 cm in diameter and a diagonally placed table or altar, both of which originally date to Phase II a/b and remained in use through several phases as evidenced by their association with a number of floors.¹² Several shells, clay and stone beads and a small collection of astragali¹³ were recovered from the triangular area formed by the altar and the corner of the north and east walls. A cache of 99 astragali (47 goat, 34 sheep, 16 sheep/goat and 2 fallow deer) was found buried beneath the IIc floor of Room 7. These may have originally been kept within a container as suggested by the recovery of twelve small copper rivets amongst them. The painted sandstone stele was recovered from the south-east section of Room 3. Considering the size, layout and placement of the central hearth and adjacent platform and nearby altar, it is likely that ceremonial events taking place in the building would have occurred in this room.

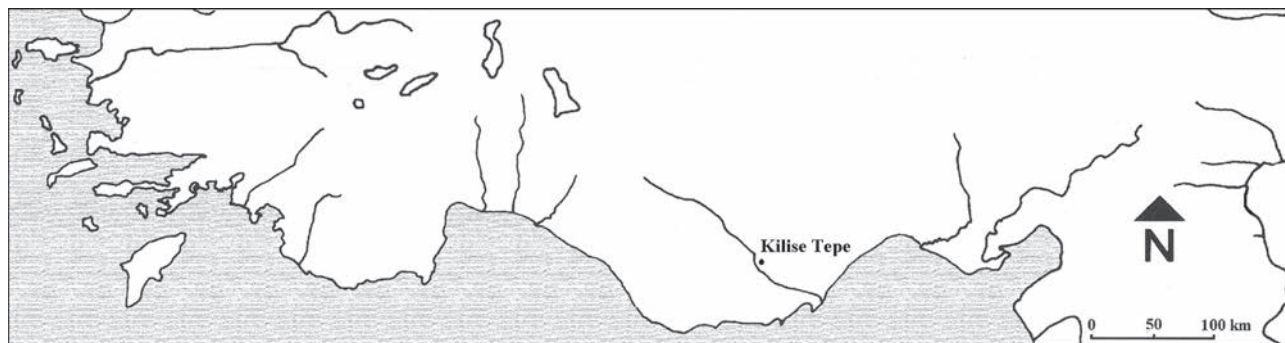


Fig. 1. Location of Kilise Tepe in south-central Turkey.

⁷ Postgate 1998, 128.

⁸ Baker 2008.

⁹ Goldman 1950; 1956; 1963.

¹⁰ Özyar 2005.

¹¹ Postgate & Thomas 2007, 137.

¹² Postgate & Thomas 2007, 125.

¹³ Postgate & Thomas 2007, 125.

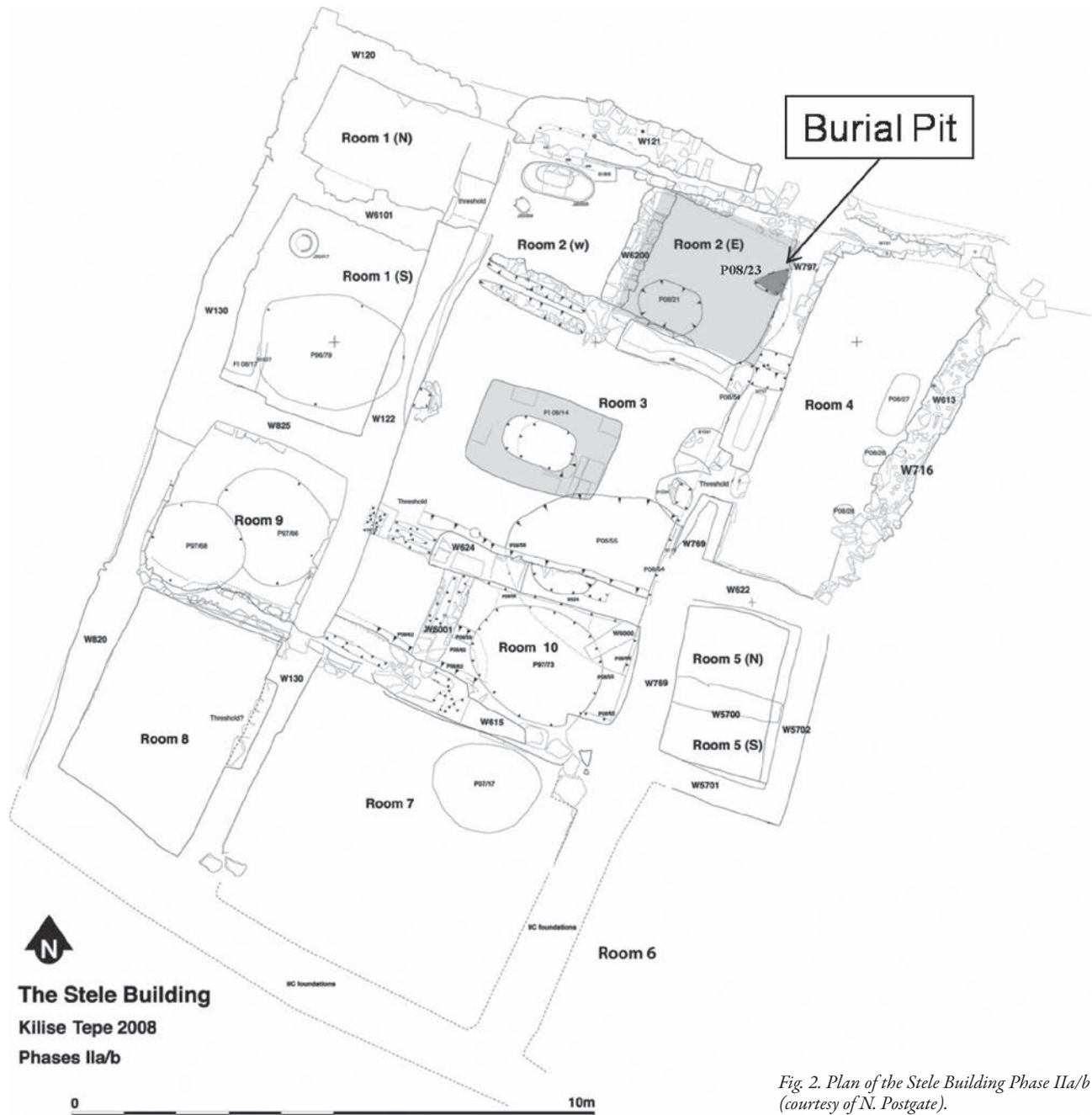


Fig. 2. Plan of the Stele Building Phase IIa/b (courtesy of N. Postgate).

Room 2

Located immediately north of Room 3, and adjoined to it via a small doorway, Room 2 has no striking features except for the small pit (P08/23), dug beneath the Phase IIa floor into the Phase III fill. The pit appears to be contemporary with the major reconstruction of the building in Phase IIa rather than belonging to the earlier Phase III occupation. It was

sub-triangular with maximum lengths of approximately 60 cm and quite shallow reaching a maximum depth of approximately 20 cm. The pit contained the remains of a single, nearly complete disarticulated sheep skeleton (Fig. 3), along with occasional pieces of charcoal, also found in the surrounding matrix, to the exclusion of any other artefact or ecofact.



Fig. 3. Pit P08/23 in Room 2 (E) (facing southeast).



Fig. 4. All recovered elements presented in approximate anatomical position (courtesy of B. Miller).

Zooarchaeological evidence

Elements recovered

A total of 53 elements were recovered from pit P08/23 belonging to a single young male sheep (*Table 1* and *Fig. 4*).

All of the major long bones were recovered except for the left scapula and right humerus. The long bones were recovered complete or nearly complete, save for the left humerus and right tibia, indicating that the bones were not intentionally broken during the butchery process or subsequently for marrow removal. Most of the left ribs were missing. The bones were deposited in a disarticulated and jumbled state (*Fig. 3*), however local articulations between individual vertebrae and carpals were intact indicating that some connective tissue remained. The bones, and possibly other waste from the carcass, were deposited shortly after the animal had been killed. The missing shoulder joints (right humerus, left scapula and most of the left humerus) may have been treated differently from the remainder of the carcass and removed in their entirety prior to filleting. Both of the astragali were missing suggesting they were collected from the carcass prior to deposition. Bearing in mind the collection of astragali recovered behind the altar in Room 3 and the cache buried in Room 7 it is clear that astragali collection was not an uncommon occurrence at the site. Caches of astragali are fairly common in Near Eastern buildings. Anatolian examples include instances from Alishar, Gordion, Tarsus,¹⁴ Hacilar¹⁵ and Beycesultan.¹⁶ The possibility exists that these astragali were selected from animals that had been sanctified prior to slaughter, enhancing their suitability for use at subsequent ritual events. The same provenance is unlikely to have been required of astragali used in a more profane manner.

Taphonomy

The limited fragmentation (*Table 1*) and the good/excellent state of preservation of the bones indicate that they were neither disturbed nor affected by destructive taphonomic processes subsequent to burial. All of the bones rate a 0/1 on the Behrensmeyer weathering scale.¹⁷ It is probable that elements not recovered from the pit were not deposited within the pit in the first place. None of the bones show signs of burning or evidence of carnivore gnawing. When fragmentation of the long bones exists the breaks are curved rather than square or jagged indicating the bone was broken while fresh.

¹⁴ Gilmour 1997.

¹⁵ Mellaart 1970.

¹⁶ Lloyd 1972.

¹⁷ Behrensmeyer 1978.

Table 1. Catalogue of elements showing their completeness.

Catalogue no.	Element	Side	% complete
81425/03	cranium	Axial	NA
81425/01	mandible	Left	90
81425/02	mandible	Right	80
81425/04	hyoid	Right	80
81425/05	atlas	Axial	90
81425/06	axis	Axial	80
81425/07	cervical vertebra	Axial	90
81425/08	cervical vertebra	Axial	80
81425/09	cervical vertebra	Axial	60
81425/10	thoracic vertebra	Axial	80
81425/11	lumbar vertebra	Axial	90
81425/12	lumbar vertebra	Axial	90
81425/13	lumbar vertebra	Axial	80
81425/14	lumbar vertebra	Axial	100
81425/15	caudal vertebra	Axial	100
81425/16	caudal vertebra	Axial	100
81425/19	sternum	Axial	NA
81425/17	rib	Left	NA
81425/18	rib	Right	NA
81425/38	innominate	Left	80
81425/39	innominate	Right	90
81425/23	scapula	Right	80
81425/20	humerus	Left	30
81425/21	radius	Left	70
81425/24	radius	Right	100
81425/26	carpal	Right	100
81425/22	metacarpal	Left	100
81425/25	metacarpal	Right	90
81425/27	femur	Left	100
81425/33	femur	Right	100
81425/28	tibia	Left	100
81425/34	tibia	Right	10
81425/29	calcaneus	Left	100
81425/30	navicular cuboid	Left	100
81425/35	navicular cuboid	Right	100
81425/31	tarsal	Left	100
81425/36	tarsal	Left	100
81425/32	metatarsal	Left	100
81425/37	metatarsal	Right	100
81425/41	proximal phalanx	Right	100

81425/42	proximal phalanx	Left	100
81425/43	proximal phalanx	Right	100
81425/44	proximal phalanx	Left	100
81425/45	proximal phalanx	Left	100
81425/46	proximal phalanx	Right	100
81425/47	medial phalanx	Left	100
81425/48	medial phalanx	Left	100
81425/49	medial phalanx	Left	100
81425/50	distal phalanx	Left	100
81425/51	distal phalanx	Left	100
81425/52	distal phalanx	Left	100
81425/53	sesmoid	NA	NA

Butchery

Disarticulation cut marks, some possibly associated with skinning, filleting cut marks and heavy chop marks (*Table 2*) provide evidence for butchering. The chop marks are limited to the axial skeleton and result from a rough sectioning of the spine and pelvis into smaller parcels. Very heavy cut or chop marks are found on the axis vertebra (*Figs. 5 and 6*) which result either from enthusiastic slaughtering of the animal by cutting its throat or possibly relate to the decapitation of the animal. Textual evidence indicates it was common Hittite practice to slaughter an animal by cutting its throat in order to bleed the animal out; the blood was collected for ritual use or let drain into a designated area such as a pit, onto bread, or before an altar or representation of a deity.¹⁸ Disarticulation cut marks on the bones indicate that the carcass was broken down into individual elements in a precise fashion following skeletal divisions. Good examples of these marks are seen on the proximal face of the head of the right femur (*Fig. 7*). Several disarticulation marks may also have served as initial skinning marks, particularly those on the distal limb elements.¹⁹ The cut mark on a caudal vertebra is likely associated with tail removal, often accomplished during the skinning process.²⁰ Filleting marks indicate that meat was stripped from the skeleton. A series of eleven cut marks on the spine of the right scapula (*Fig. 8*) were made during the removal of the origin of the deltoid muscle and filleting marks on the antero-lateral face of the proximal right femur (*Fig. 9*) were made during the removal of the origin of the vastus intermedius muscle.

¹⁸ Mouton forthcoming.

¹⁹ Lapham 2005.

²⁰ Seetah forthcoming.



Fig. 5. Axis vertebra with heavy chop marks (right side view) (courtesy of B. Miller).



Fig. 7. Disarticulation cut marks on the head of the right femur (proximal view) (courtesy of B. Miller).



Fig. 6. Axis vertebra with heavy chop marks (ventral view) (courtesy of B. Miller).



Fig. 8. Filleting marks on the right scapula spine (courtesy of B. Miller).



Fig. 9. Filleting marks on the antero-lateral face of the proximal right femur (courtesy of B. Miller).

Table 2. Catalogue of butchery marks.

<i>Cat. no.</i>	<i>Element</i>	<i>Side</i>	<i>Type</i>	<i>Freq.</i>	<i>Location</i>	<i>Aspect</i>	<i>Direction</i>	<i>Proposed purpose</i>
81425/03	Cranium	Axial	Chop	2	Frontal	Dorsal	Medial-lateral	Disarticulation/ consumption
81425/05	Atlas	Axial	Chop	4	Dorsal-caudal	Dorsal	Medial-lateral	Disarticulation
81425/05	Atlas	Axial	Cut	3	Ventral-cranial	Anterior	Dorso-ventral	Disarticulation
81425/05	Atlas	Axial	Cut	4	Dorsal-cranial	Anterior	Medial-lateral	Disarticulation
81425/06	Axis	Axial	Chop	4	Ventral-cranial	Dorsal	Medial-lateral	Disarticulation
81425/06	Axis	Axial	Chop	4	Dorsal-caudal	Ventral	Medial-lateral	Disarticulation
81425/08	Cervical vertebra	Axial	Chop	2	Vertebral arch	Dorsal	Medial-lateral	Disarticulation
81425/08	Cervical vertebra	Axial	Cut	2	Cranial centrum	Ventral	Medial-lateral	Filleting
81425/09	Cervical vertebra	Axial	Chop	4	Vertebral arch	Dorsal	Medial-lateral	Disarticulation
81425/12	Lumbar vertebra	Axial	Chop	4	Cranial centrum	Ventral	Medial-lateral	Disarticulation
81425/13	Lumbar vertebra	Axial	Chop	5	Caudal centrum	Ventral	Medial-lateral	Disarticulation
81425/14	Lumbar vertebra	Axial	Chop	4	Cranial centrum	Ventral	Medial-lateral	Disarticulation
81425/16	Caudal vertebra	Axial	Cut	2	Cranial centrum	Ventral	Medial-lateral	Disarticulation/skinning
81425/20	Humerus	Left	Cut	2	Lateral condyle	Lateral	Anterior-posterior	Disarticulation
81425/20	Humerus	Left	Cut	5	Medial condyle	Medial	Anterior-posterior	Disarticulation
81425/23	Scapula	Right	Cut	2	Glenoid cavity	Proximal	Medial-lateral	Disarticulation
81425/23	Scapula	Right	Cut	11	Spine	Lateral	Dorso-ventral	Filleting
81425/24	Radius	Right	Cut	5	Proximal-lateral	Lateral	Anterior-posterior	Disarticulation
81425/24	Radius	Right	Cut	4	Proximal -medial	Anterior	Medial-lateral	Disarticulation
81425/26	Radial carpal	Right	Cut	1	Posterior	Posterior	Medial-lateral	Disarticulation/skinning
81425/26	2+3 carpal	Right	Cut	3	Posterior	Posterior	Medial-lateral	Disarticulation/skinning
81425/27	Femur	Left	Cut	1	Head	Proximal	Anterior-posterior	Disarticulation
81425/28	Tibia	Left	Cut	3	Head	Medial	Proximal-distal	Disarticulation
81425/28	Tibia	Left	Shave	5	Tibial crest	Anterior	Proximal-distal	Filleting
81425/30	Navicular cuboid	Left	Cut	2	Anterior	Anterior	Medial-lateral	Disarticulation/skinning
81425/33	Femur	Right	Cut	4	Head	Proximal	Anterior-posterior	Disarticulation
81425/33	Femur	Right	Cut	1	Greater trochanter	Lateral	Anterior-posterior	Disarticulation
81425/33	Femur	Right	Cut	7	Medial condyle	Medial	Proximal-distal	Disarticulation
81425/33	Femur	Right	Shave	5	Lateral shaft	Lateral	Anterior-posterior	Filleting
81425/34	Tibia	Right	Cut	2	Lateral-anterior	Medial	Aroximal-distal	Disarticulation
81425/35	Navicular cuboid	Right	Cut	3	Anterior	Anterior	Medial-lateral	Disarticulation/skinning
81425/37	Metatarsal	Right	Cut	2	Proximal-medial	Medial	Anterior-posterior	Disarticulation/skinning
81425/38	Innominate	Left	Cut	1	Ischium	Lateral	Cranial-caudal	Disarticulation
81425/38	Innominate	Left	Cut	1	Pubic symphysis	Ventral	Medial-lateral	Disarticulation
81425/38	Innominate	Left	Chop	2	Pubic symphysis	Ventral	Cranial-caudal	Disarticulation
81425/39	Innominate	Right	Cut	5	Ilium ala	Medial	Cranial-caudal	Disarticulation
81425/39	Innominate	Right	Cut	2	Pubis	Ventral	Cranial-caudal	Disarticulation
81425/39	Innominate	Right	Cut	3	Ischium	Lateral	Cranial-caudal	Disarticulation

Species, age and sex

The animal was identified as a sheep based on morphological criteria following Boessneck.²¹ The animal was sexed on the basis of pelvis morphology following Boessneck²² and determined to be male. The animal was aged based on fusion²³ (Table 3) and dental eruption and wear²⁴ (Tables 4 and 5) and determined to be approximately 20–24 months old at death.

Table 3. Fusion date ranges and occurrences with the skeleton. After Silver 1969.

<i>Fusion group</i>	<i>Element</i>	<i>Fusion date range</i>	<i>Fusion state</i>	<i>Number</i>
A = 6–16 months	Scapula proximal	6–8 months	Fused	1
	Pelvis acetabulum	6–10 months	Fused	2
	Humerus distal	10 months	Fused	1
	2nd Phalanx	13–16 months	Fused	3
	1st Phalanx	13–16 months	Fused	5
	1st Phalanx	13–16 months	Fusion line visible	2
B = 18–28 months	Tibia distal	18–24 months	Fused	1
	Metacarpal	18–24 months	Fusion line visible	2
	Metatarsal	20–28 months	Fusion line visible	2
C = 30–36 months	Calcaneus	30–36 months	Fusing	1
	Femur proximal	30–36 months	Unfused	2
D = 36–42 months	Radius distal	36 months	Unfused	2
	Femur distal	36–42 months	Unfused	2
	Tibia proximal	36–42 months	Unfused	1
Suggested age range = 20–28 months				

Table 4. Permanent tooth eruption and wear. After Silver 1969.

<i>Tooth erupting</i>	<i>Time range</i>	<i>State in mandible</i>	<i>Number</i>
Premolar 1	21–24 months	Half erupted	2
Premolar 2	21–24 months	Half erupted	2
Premolar 3	21–24 months	Half erupted	2
Molar 1	3–5 months	Fully erupted; in wear	2
Molar 2	9–12 months	Fully erupted; in wear	2
Molar 3	18–24 months	Half erupted	2
Suggested age range = 21–24 months			

²¹ Boessneck 1969.

²² Boessneck 1969.

²³ Silver 1969.

²⁴ Payne 1973; Silver 1969.

Table 5. *Tooth wear. After Payne 1973.*

<i>Tooth</i>	<i>Right</i>	<i>Left</i>
dP4	17L	NA
P4	Half erupted	Half erupted
M1	9A	9A
M2	7A	7A
M3	Half erupted	Half erupted
Stage D = M2 in wear, M3 unworn		
Payne's age range = 12–24 months		

Withers height

Based on the greatest lengths of the radius, metapodials and calcaneum the withers height of the animal was determined to be between 62–64 cm at the time of death (*Table 6*).²⁵ A number of the long bones were unfused at death so the animal may not have reached its full adult size.

Table 6. *Withers height indexes. After Tiechert 1975.*

<i>Element</i>	<i>Index</i>	<i>Side</i>	<i>GL (mm)</i>	<i>Withers (cm)</i>
Radius	GL × 4.00	Right	155	62
Metacarpal	GL × 4.84	Left	131,8	64
Metacarpal	GL × 4.84	Right	131,9	64
Metatarsal	GL × 4.51	Left	140	63
Metatarsal	GL × 4.51	Right	140	63
Calcaneum	GL × 10.23	Left	61,1	63

Deposition

A lack of archaeological examples suggests that the careful deposition of a sheep carcass into a small pit subsequent to meat removal was an unusual practice in LBA Anatolia; however the textual record, discussed in the next section, indicates otherwise. Reasons for this might include: 1) the practice was occurring off-site, on river-banks for example (see in particular KUB 7.41, below); 2) the pits were subsequently disturbed or cut by other pits; 3) the pits only occurred in particular buildings (that have yet to be excavated); 4) the pits have been overlooked in past excavations because of their small size and the general lack of interest in zooarchaeological remains; or finally 5) the pits have been excavated but have not been published.

²⁵ Tiechert 1975.

Textual evidence

Textual evidence indicates Hittite use of pits in ritual practice took a variety of forms, including: as a channel for communication with chthonic deities, as a means of disposing of impurities by consigning them to the earth as an offering, and as a means of securing the future strength and favour of a structure in the form of a foundation ritual. The following selection of texts illustrates various ritual practices involving both sheep and pits.

Examples of relevant texts

1) Ritual for drawing of paths: KUB 15.31²⁶

“Promptly he takes a hoe and digs (with it). Then he takes a pectoral ornament and digs with it. Then he takes a *šatta*-, a spade, and a *huppara*-container, and he clears out (the pit with them) ...

He smears the nine pits with blood. Then for the nine pits (there are) nine birds and one lamb. For *ambašši* and *keldi* he offers nine birds and one lamb. He puts one bird in each pit, but the lamb they cut up and put in the first pit.”

2) Ritual to the underworld deities for purifying a house: KUB 7.41²⁷

“He goes to the river bank and takes oil, beer, wine, *walhi*-drink, *marnuan*-drink, a cupful (of) each in turn, sweet oil cake, meal, (and) porridge. He holds a lamb and he slaughters it down into a pit (*patteššar*).”

²⁶ Translation from Collins 2002, 227.

²⁷ Translation from Collins 2002, 227.

3) Foundation ritual (for a temple of the Goddess of the night): KUB 29.4 and duplicate KBo 8.90²⁸

“When, during the second day, at nightfall, a star twinkles, the ritual patron goes to the temple. He bows down before the deity. The two knives which have been made for the new deity, one takes them. One digs an *āpi*-pit before the table of the deity. One sacrifices a sheep to the deity as *enumašši*. One slaughters [it] down into the pit.”

4) Foundation ritual (from the 13th century BC): KUB 55.26 and Bo 7740²⁹

“Bu[t] to the pillars (sg.) which are on the right and left (side of the owner of the house), to those they sacrifice (sheep) in three different places. Each time, however, they s[ac]rifice one sheep.

In front of the altar, he (the owner of the house) pours beer (and) wine after the blood (offering). In front of each of the two pillars they libate three times. They place the raw meat (of the sacrificed sheep), the breasts, shoulders, heads, and feet, in front of the altar. The breast, shoulders, heads, (and) feet they place in front of those t[wo] pillars, to (or for) which (animals) have been slaughtered.”

5) Tunnawiya of Hattuša's ritual of “Taking off the Earth”: KUB 55.45 and Bo 69/142ii³⁰

“While they begin digging out the storage pits they drive up a sheep. The old woman consecrates it to the Sun Goddess of the Earth. They slit its throat downward into the storage pit and let its blood flow downward ... Then they butcher (the animals) with respect to the heads and feet. While the fat cooks, soldiers dig out a storage pit. When they finish digging it, then they [di]g close by another storage pit. It happens that they join it to the (first) pit. The fat cooks and the entire assembly eats it.”

6) (Winter) festival for Ishtar of Nineveh: KUB 10.63³¹

“The queen comes forth, and the diviner opens up a pit (*āpi*) before the Storm God *marapši*. The diviner offers one sheep to the Storm God *marapši*, and the diviner cuts its throat downward for the pit. He releases the blood into a cup, which he places on the ground before the Storm God *marapši*. Next the diviner (proceeds) to the raw intestines and heart (of the sacrifice) and cuts off a little. He takes a little blood as well and sets it down into the pit. Then at the top he stops up the

pit with thick bread. They carry the sheep forth, and the temple servants cut it up.”

Discussion of texts

None of the available texts specify what becomes of the sheep carcass after it is sacrificed and butchered. Ritual (2) is designed for the purification of a house, or temple, however it takes place next to a river bank and examples of this ritual will be difficult to find in the archaeological record; none are currently known. Further, the description of slaughtering a lamb down into the pit may be referring to letting its blood flow from its neck into the pit at slaughter and not the placement of the carcass into the pit. The house described in ritual (4) can indicate a temple or ceremonial location.³² Architectural elements other than pillars can also receive sacrifices including walls, hearths, windows, doors, door bolts, columns and altars.³³ The pit described in ritual (1) is dug with a hoe and a “pectoral ornament” and the pits described in rituals (2) and (3) are dug with daggers suggesting that they are all small, unlined, single use affairs similar to pit P08/23. The purpose of ritual (5) is to release a suppliant by means of substitution from the influence of the chthonic powers and thus to absolve him from his sin and heal him. The ritual describes humans feasting on the sheep that has been consecrated to the Sun Goddess of the Earth. In ritual (6) portions of the intestines, heart and some blood of the sacrificed sheep are placed into the pit. The remainder of the sheep is butchered for human consumption.³⁴ The fate of the carcass post-butchery is not stated but it is conceivable it was brought back to the pit, which was only covered by bread, and deposited.

It is possible the deposit represents the remains of a foundation ritual as the pit dates to a period of major reconstruction of the building. It is equally possible that the Kilise Tepe sheep deposit derives from a ritual practice not described in any of the available texts. Although there is no exact parallel between the rituals described and the deposit recovered at Kilise Tepe, the rituals share many similarities in structure allowing the construction of a ritual framework that can be applied to the zooarchaeological evidence from Kilise Tepe.

²⁸ Translation from Mouton 2008, 7; see also Collins 2002, 228.

²⁹ Translation from Ünal 1988, 101.

³⁰ Translation from Collins 2002, 229.

³¹ Translation from Collins 2002, 231.

³² Ünal 1988, 102.

³³ Ünal 1988, 103.

³⁴ Collins 2002, 230.

Reconstructing the process of animal sacrifice and consumption

The process surrounding the deposition of the sheep bones within the pit in the Stele Building can be reconstructed through a combination of the zooarchaeological and textual data. Aspects of this reconstruction inevitably rely on extrapolation from known ritual practice. The nine stage process introduced here expands the six stages that sacrificial meat underwent proposed by Mouton.³⁵ Animal selection and pit preparation stages are added to reflect the importance of these acts to the ritual process as indicated by their inclusion in numerous texts. In addition, the butchery evidence indicates that her “cutting of the meat” stage is represented by two separate stages: disarticulation and filleting.

1) *Selection*: The animal was selected with a particular ritual/event in mind; species, age, sex and colour may all have been a factor in its selection. In this case the animal required was a yearling ram. Sheep were the animals most frequently offered as sacrifices,³⁶ meaning they were also the animals most frequently eaten during feasts. Age of the animal sacrificed is specified in substitution rituals, where the animal is typically juvenile, but is seldom mentioned in other texts. Sex is not specified for most rituals and may not have been important in this instance but it is taken into consideration during substitution rituals where the sex of the animal usually matches the sex of the devotee.³⁷

2) *Sanctification*: The animal was brought to the Stele Building and sanctified through prayer and possibly the ritual burning of incense and/or scented wood. It was common practice in Hittite rituals to purify animal offerings through the burning of cedar wood or an unknown substance called *tubhueššar*.³⁸ This act bestows a condition of being devoted or sacred upon the animal making it suitable as an offering to a deity. The special deposition of the skeletal material, and possibly other soft tissue waste, indicates that the whole animal became devoted during this process and not just the meat (*šuppa*) that was subsequently placed before the deity.³⁹

3) *Preparing the pit*: The pit was dug. The pit’s small size, single use and lack of any lining indicates it was dug using small tools as in rituals 1, 2 and 3, above, for the express purpose of holding the remains of the animal about to be sacrificed.

I suggest the pit was dug prior to the act of sacrifice because it was common practice for an animal to be bled out into a ceremonial pit.

4) *Sacrifice*: The animal was sacrificed. The verb most commonly used to describe the slaughter of the animal is *hatt(a)-*, translated as “prick”, “strike”, “cut open” and “slit the throat”.⁴⁰ This verb choice is important as it is associated with the flowing of the animal’s blood. Two other verbs, *ku(e)n-* and *hu(e)k-*, are translated respectively as “to kill” and “killing” (only used with animals) are occasionally used and contrapuntally emphasize the common choice of *hatt(a)-*. The act of slaughter represents the moment of destruction of the animal; it is irrevocably sacrificed by its owner. It also facilitates the release of the animal’s blood, a powerful ingredient in the ritual process. The sheep was bled out by cutting its carotid arteries and jugular veins. The heavy cut marks on the axis likely reflect this act. The animal’s blood was collected in a vessel or on bread or allowed to flow into the prepared pit.

5) *Disarticulation*: The animal was skinned and disarticulated. Two techniques were used in the process: heavy chopping and precise cutting. Long bones were separated from each other by cutting through the joint; whole joints were not preserved, save perhaps a shoulder joint. The axial skeleton was chopped roughly into smaller parcels. At this stage the left shoulder, left ribs, right shin and offal may have been separated from the rest of the skeleton and prepared as offerings, explaining their absence in the pit. The astragali may also have been collected at this stage. Two main verbs are used to describe the cutting up of the sacrificial animal: *ark-* and *mark-*.⁴¹ The verb *ark-* always precedes *mark-* when they are employed in a sentence together (and both always follow *hatt(a)-*) indicating they describe different though related actions. They have been translated as “dividing, cutting out” and “to cut, to cut up” respectively. Physical evidence shows that several distinct stages of butchery took place on the Kilise Tepe sheep. It is possible that the act of disarticulation is described by the verb *ark-* and the subsequent act of filleting described by the verb *mark-*.

6) *Filleting*: Meat was stripped from the bones of the sheep. This meat may not have been offered before the deity but was still sanctified and considered as *šuppa*. It would have been consumed along with the offerings at a subsequent feasting event. If cooked, the meat of the animal was probably boiled rather than roasted as textual evidence indicates roasting is typically reserved for the heart and liver.⁴² There is no evi-

³⁵ Mouton 2007.

³⁶ Mouton forthcoming.

³⁷ Mouton forthcoming.

³⁸ Mouton 2007.

³⁹ Mouton 2007.

⁴⁰ Mouton 2007.

⁴¹ Mouton 2007.

⁴² Mouton 2007.

dence for burning on any of the bones. Meat removal likely occurred prior to cooking. If the bones had been boiled it is likely the unfused epiphyseal ends would have become disarticulated, and this did not occur.

7) *Deposition*: Bones and other waste material were carefully deposited into the pit reflecting the sanctified nature of the entire animal (*šuppa*). It is important to remember the pit was within the Stele Building and the interment of the sheep in this location carries significance because it differentiates the deposit from common food refuse. The pit was covered.

8) *Offering*: The *šuppa*, made up of meat, offal and possibly fat, was taken into Room 3 and placed before the deity, perhaps represented by the stele if it is considered to be a *huwaša* stone. The *šuppa* was left for some period of time before the deity, possibly overnight. There is no zooarchaeological evidence for this action but the ritual associations of the Stele Building make it possible. On the other hand, if the deposition was the result of a foundation ritual the sheep may not have been offered to a deity at all but rather to an architectural element within the building or the building itself. It was not necessary to destroy the sacrifice by fire to transmit it to the deity, as was the case in ancient Greece, though complete immolation of sacrifices did occur, particularly in Kizzuwatna rituals.⁴³

9) *Consumption*: The *šuppa* was taken from before the deity and consumed. It was not forbidden for humans to consume *šuppa* after it had been offered to the deity. The *šuppa* that was not offered to the deity would also be consumed at this stage. It is not clear who would have been able to participate in the feast. Texts describing feasts associated with religious holidays occurring in Hattuša indicate the feasts were restricted to elite members of society including the royal family, palace officials and priests.⁴⁴ Participants at Kilise Tepe, which was a great distance from the Hittite heartland, may have included other members of society.

The topic of how Hittites prepared meat derived from a sacrificial animal for consumption has been little explored, though Mouton has made an important effort in this direction.⁴⁵ While ritual immolation of entire animals is frequently described in Hittite ritual texts this practice would leave a very different zooarchaeological signature than that seen at Kilise Tepe so is not considered to be relevant for the case at hand. Cooking (*zanu-*) of the meat was done either in a pot (boiled) or by fire, in a hearth with an open flame. The two

techniques could be used together on different parts of the same animal. Examination of approximately 60 texts⁴⁶ indicates a clear separation of cooking technique preference dependant on the anatomical part involved (*Table 7*). The liver and the heart are the most frequently referred to anatomical units and are virtually always cooked with fire. This does not imply immolation of these elements as a method of transferring them to a god for consumption, but rather that this is a cooking method that often leads to consumption by humans. These two body parts may hold particular importance for Hittite ritual due to their association with the animal's blood, also a substance that features heavily in ritual practice. The two most obviously missing elements of the Kilise Tepe sheep are the shoulder joints and left ribs. Both of these are parts that are occasionally prepared by fire. It is possible that the reasons these bones were removed from the carcass was so that the associated meat could be prepared in a different fashion (cooked by fire) than the rest of the meat filleted from the body which was prepared in a pot. Both the cooking by fire and cooking by pot could have occurred at the central hearth in Room 3 of the Stele Building.

Table 7. Hittite ritual meat cooking techniques. After Mouton 2007.

<i>Anatomical part</i>	<i>Pot</i>	<i>Fire</i>
Head	5	0
Ear	0	1
Shoulder	1	2
Heart	0	23
Anterior leg (hand)	3	0
Chest	6	0
Bulge? (KURIDU)	2	0
Chops	4	1 (short chops)
Lung	1	0
Liver	1	26
Leg?	7	0
Posterior leg (foot)	2	0
Top of the fore and hind legs (<i>kudur</i>)	3	0
<i>muh(ha)rai-</i>	2	0
<i>auli-</i>	1	0
pure bone (<i>parkui haštai</i>)	1	0

⁴³ Mouton forthcoming.

⁴⁴ Mouton forthcoming.

⁴⁵ Mouton 2004; 2005; 2007.

⁴⁶ Mouton 2007, 7–8.

Conclusions

This paper is a first step to integrating zooarchaeology with Hittite textual evidence to better understand LBA animal sacrifice. Intra-site, deposit specific zooarchaeological analyses are necessary to produce reconstructions of the process of animal sacrifice and consumption that are informed by, but not limited to, textual representations. This is particularly true at sites such as Kilise Tepe, located a long distance from the Hittite heartland where most of the texts were produced and recovered. Sites on the edge of empire likely engaged in regional ritual practices not officially recognized or recorded by centrally located scribes making the zooarchaeological evidence crucial to the determination of regional realities of ritual practice. This will prove helpful when considering cultural contact across the eastern Mediterranean basin. In addition, the butchery analysis performed may assist Hittitologists with the debatable definitions of verbs related to animal sacrifice, in particular *ark-* and *mark-*, by providing a better understanding of the physical process of Hittite ritual butchery.

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The taphonomy of ritual bone depositions

An approach to the study of animal bones and ritual practice with an example from Viking Age Frösö, Sweden

Abstract

In this paper an approach to studying ritual bone depositions by reconstructing the taphonomic history of the zooarchaeological remains is presented. By methodically examining the taphonomic evidence from the chain of events, from the selection of animals to the killing, from the processing and utilization of the carcass to the deposition of the bones, different stages of a ritual, such as animal sacrifice, can be studied and understood. A bone assemblage from a Viking Age cult place at Frösö church in Jämtland in central Sweden (late 10th–early 11th century AD) will serve as an example of the approach. The analysis shows that brown bear and piglets were specifically selected to be used in the rituals, while horses were not important sacrificial animals in the cult, as has otherwise been indicated by written sources. Seasonal analysis indicates that sacrifices took place at three periods of the year. Butchering marks reveal the intense utilization of the carcasses and that meat was consumed. Body part frequency shows that bears were treated differently from other species, which could be the result of an influence of Saami ritual practice. The bones were deposited on the ground beneath a birch tree and carcasses were not hung in the tree as some written sources indicate.

Introduction

The practice of sacrifice can be described as a human behaviour to be found in one way or another in almost all societies, past and present.¹ Sacrifice is often an essential part of religious practice, but has also a substantial social importance. The study of ritual practice associated with sacrifice is thus of interest if we want to understand not only the worldview and beliefs, but also the social structures and life of past cultures.

The sacrifice of animals followed by consumption of meat and deposition of bones has a central role in rituals and religious practice in many societies. It is probably one of the most ancient of all ritual practices and the killing of a creature is in many societies the ultimate sacrifice. The sacrifice of an

animal is often a public event that is followed by the sharing of the meat and a feast, which often is of significant social importance.² It is thus obvious that osteological remains of sacrificed animals are an important source of information for behaviour and belief in past societies. The question is: how can we study bones from ritual depositions?

The most central problem associated with studies of bones from ritual contexts is how to define and identify a ritual deposition and how it differs from bones from other kinds of contexts. The prevailing view among scholars today is that in prehistoric and ancient societies no sharp dividing line between the sacred and the profane existed. What we today in a secularized Western worldview may describe as religious or supernatural experiences or activities were in many past societies integrated in everyday activities.³ It is not appropriate to separate animal offerings from subsistence strategies, since sacrificial killing most likely in many past societies were embedded in the animal husbandry practice. Most of the slaughter and killing of animals has also in some societies been ritualized, such as the Jewish *kosher* or traditional slaughter in Nordic countries during the 19th century.⁴

In this study sacrifice is defined as the killing of animals at certain occasions in order to communicate with the divine world and in distinction to slaughter in subsistence with the primary purpose to transform an animal into food. However, this does not mean that only the killing was significant in animal sacrifice. Just as important were the consumption of meat and the handling of the carcass and bones in the communication with the gods or spirits. Further, this does not exclude that ordinary slaughter was accompanied by rituals or should be understood as profane act, but the primary purpose of the killing and processing of the carcass was not religious in these

¹ Grant 1991; O'Day *et al.* 2004; Berggren 2006, 304; Pluskowski 2011.

² Twiss 2008, 423.

³ Brück 1999; Insoll 2004; Bradley 2005.

⁴ Cope 2002; Heurgren 1925, 357–377.

cases. In many ancient cultures slaughter was most likely not a case of either a sacred or profane act, but rather a matter of a gradient of sacredness depending on different factors, such as which kind of animal was killed, by whom, where and when the slaughter took place. There are examples of societies where all slaughter took place at certain occasions and all killing of animals could be described as sacrifices.⁵ However, in many other societies like Iron Age Scandinavia and ancient Greece there was a distinction between ordinary slaughter and the killing of animals at certain occasions and places.⁶

In this study, the term ritual bone deposition will be used in relation to osteological evidence interpreted to result from handling and use of animal or human remains in the practice of religion or magic according to a structured and repeated pattern that differs from the deposition of ordinary refuse from butchering and meals.

Several studies have dealt with ritual bone depositions and different criteria have been proposed.⁷ The definitions may differ as to what allows a bone deposition to be interpreted as the remains of a ritual activity. Identifications of ritual bone depositions are often based on the composition of species and body parts. Just as important is the archaeological context, i.e. how the bones were treated and arranged, and in which setting the bones were placed. In some cases the identification of ritual bone depositions is more obvious, such as depositions in graves or at altars of temple areas, but other cases such as depositions in pits are more problematic. A problem with strict definitions of ritual bone depositions is that they are too specific and focus on the odd, such as presence of human remains, complete carcasses and more unusual species.⁸ Most ritual activities most likely involved the most common animals and usually the carcasses were processed and the meat consumed making the bone deposition resemble more ordinary refuse. The Greek sacrifice and the Roman *suovetaurilia* are good examples where the species commonly used as sacrificial animals were the usual livestock, i.e. cattle, sheep and pigs.⁹

Another problem with studies of bones from ritual depositions is that they often only tend to verify written sources or ethnographic analogies and follow preconceived conceptions of rituals in a specific area and period within the archaeological community. The bones often serve as a kind of confirmation of what we already know or maybe assume we know, rather than contribute new knowledge.

Animal sacrifice and the horse in Iron Age Scandinavia

An example of this problem is the assumption of the prominent role the horse is described to have had in rituals in Iron Age Scandinavia. Finds of horse bones from Iron Age Sweden are often interpreted as ritual deposition, while finds of livestock, such as cattle, sheep and pigs commonly are associated with the profane.¹⁰ The fact that horses had mythological significance and played a role in rituals is known from the written sources.¹¹ There are also several archaeological finds of ritual depositions of horse bones.¹² It is obvious that the horse played an important role in the belief and ritual practices during the Iron Age in Scandinavia, but the focus on horse is in many cases disproportional.

There are several questionable examples of interpretations of single bones or teeth of horse from house structures or other archaeological features that have been interpreted as ritual deposition.¹³ The presence of horse or a high frequency of the species is not enough to interpret a bone deposition as remains of a ritual. I would argue that the common farm animals—cattle, sheep and pig—were as important animals in ritual practice as horse.

Another example of the emphasis on horse is the famous find from Skedemosse with its depositions of horse bones, which have parallels with other bogs in southern Sweden and Denmark.¹⁴ The abundance of horse bones is striking and most interesting. The find is often used as an example of the importance of horse in ritual practice during the Iron Age in South Scandinavia. However, what is often not mentioned is that bones from cattle are almost as frequently found and indicate that livestock also played an important part in the rituals at the site. Iron Age depositions of horse bones in bogs from Denmark are well known and often used as examples of ritual practice, but also depositions of cattle occur frequently in sacrificial bogs.¹⁵

The taphonomic approach

The aim of this paper is not to present new definitions of how to identify ritual bone depositions. The interpretations

⁵ Hayden 2003, 460–461.

⁶ Ekroth 2007, 272.

⁷ Wait 1985; Wilson 1992; Hill 1995.

⁸ Wait 1985, 151; Wilson 1992.

⁹ Reese 2005; Wilkens 2004.

¹⁰ Andersson 1998, 250–251.

¹¹ Loumand 2006; Näsström 2002.

¹² Klindt-Jensen 1957; Ferdinand & Ferdinand 1961; Sten & Vretemark 1988; Jennbert 2003; Carlie 2004; see also Vretemark in this volume.

¹³ Carlie 2004; Andersson 1998.

¹⁴ Boessneck *et al.* 1968. For a more detailed description of the Skedemosse, see Vretemark in this volume.

¹⁵ Ferdinand & Ferdinand 1961; Hatting 1993.

of bone depositions are rather dependent on the features of specific cases and their archaeological and cultural context. Instead, here a useful approach based on analysis and reconstructing of the taphonomic history of the bones is suggested for studies of ritual bone depositions.¹⁶ There are several advantages with the taphonomic approach when dealing with ritual bone depositions. Taphonomic factors affect and alter all bone assemblages and must be considered in any osteological study of bones from archaeological sites. In all good zooarchaeological studies, taphonomy is considered and dealt with, but not always in a consistent and systematic way. When dealing with ritual bone depositions it is important to try to study and reconstruct the taphonomic history and the whole chain of events from the selection of sacrificial animals from the life assemblage to the slaughter, from the treatment of the carcass to the deposition of the bones. Of course it is not possible to grasp all aspects of the complexity of the taphonomic history of a bone deposition, but it is important to try to study different stages in the chain of events. Also, it is only possible to study those taphonomic factors that leave some trace on the bones or the composition of the bone assemblage, and this will vary from case to case depending on factors such as preservation and archaeological documentation from the excavations.

The study of the taphonomic histories and reconstruction of the “life history” of faunal remains have similarities with the biographical approach to archaeological objects and events, which also can be applied to ritual animal depositions.¹⁷

An important aspect of this approach is that it serves to reconstruct the chronology of the ritual. A ritual can be seen as a process or a chain of different acts. According to Charlotte Fabech complex ceremonies, such as animal sacrifices, resemble a drama with different acts.¹⁸ A bone deposition and its taphonomic history can be divided into different stages which can be studied and linked to stages in the process of rituals. This approach helps us to reconstruct behaviour and to understand rituals and hopefully also their meanings and purposes, the belief of humans in the past.

The taphonomic history and process of a ritual deposition can be divided into five stages:

Selection of animals. The taphonomic history starts with the *thanatocoenose* and how the death assemblage, the killed animals, differs from or reflects the life assemblage or the living animals.¹⁹ In the case of animal sacrifice this first stage is

equal to the selection of which animals are to be killed and how it relates to available animals. To study this, one has to consider what actually is known about the fauna and animal husbandry in a certain area and period. What does the selection of animals mean? Do the killed animals simply reflect the available animals or are certain animals which may have a particular symbolic meaning specifically selected?

In many studies of Greek animal sacrifice it is common to notice comparisons with different sanctuaries, which of course is of interest.²⁰ However, comparisons with ordinary settlement refuse and how it relates to the animal husbandry and subsistence typical to the period and region is rarely seen. In the analysis of what kinds of animals were selected to be used in a ritual it is important not to focus only on the species; as important could be the age and sex of the animals along with other aspects such as their condition, which can be reflected in pathology and size.

The killing. The stage after the selection of animals that could be studied from the zooarchaeological remains is the killing. There are many significant stages in the ritual that may have occurred between the selection of animals and the killing, such as whether the chosen animals were treated in a special way and whether they were dedicated to the gods by being fed with special food and the adorning of the animals. These events rarely leave any trace on the bones and are impossible to study in the faunal remains.

The killing is difficult to study and rarely leaves any traces on the bones, but is important to consider since it could be a significant stage in the ritual. Animals could have been killed by slitting the carotid artery or by strangulation, methods which do not leave any traces on the bones. Killing by a blow to the head results in marks on the skull bones, but it is often difficult to determine whether the fragmentation of skulls is due to killing, butchering of the head, or other taphonomic factors.

In many cases it may be impossible to determine how the killing was undertaken, but it could be possible to study where and when the animals were sacrificed. Prerequisites for killing could be of interest, such as spatial conditions and where on a site animals could have been killed. If wild animals occur in depositions it is in most cases most likely that the animals were killed somewhere else during the hunt and were transported to be deposited at the site.

Many rituals are linked to different periods of the year and by using age assessment of the remains of juvenile animals it is sometimes possible to get indicators of the season of killing. Seasonality analysis is often problematic and is dependent on detailed age assessment and assumption of the past breed-

¹⁶ Magnell 2011.

¹⁷ Morris 2011.

¹⁸ Fabech 2009.

¹⁹ Lyman 1994.

²⁰ Gebhard & Reese 2005; Ekroth 2007.

ing of animals, which is especially difficult with domestic animals. The use of seasonal indicators is dependent on environmental conditions and adaptations in the breeding of animals. The reproduction of domestic animals in the Mediterranean is expected to be less seasonal than that in Scandinavia with periods with limited food supply (i.e. winter), making seasonal analysis more problematic. However, the seasonality is important to consider since it may help to understand significant aspects of rituals.

Processing and utilization of the carcass. The stage that follows the killing is how the carcasses were treated. Whether whole animals were deposited or carcasses were processed and utilized is often possible to study in relative detail through analysis of butchering marks, body part frequencies and burning. If specific body parts are missing and this is not possible to explain by other taphonomic factors, it is possible to draw conclusions about the use and even in some cases the symbolism of these anatomical elements in the ritual. An example of this are finds of consumption refuse from Greek sanctuaries with animal remains without femora, sacrum or caudal vertebrae indicating that these parts were burned at the altars.²¹ Analysis of butchering marks and fragmentation patterns can reveal if all body parts were utilized and consumed. Butchering pattern, marrow fracturing and other features such as pits with fire-cracked stones or cooking vessels can give information about cooking. Evidence of burning could give clues about cooking or use of fire in the ritual, depending on the degree of exposure to fire.

Deposition. The last stage in the sacrifice of animals or other use of bones in rituals is the deposition. Body part representation can be used to trace if any specific body parts were preferred in the deposition or if whole carcasses were deposited.

It is also of course important to consider in which archaeological context the bones were deposited, such as where on a site the bones were found and how the find relates to structures and landscape. How the bones are found and possible arrangement of bones could also be of great interest. Further, it could be of importance to establish if the bones were buried and so protected, placed on display, or just thrown away.

Gnawing marks, trampling and weathering can indicate in which environment the bones were placed and how they were treated before the deposition. Gnawing by scavengers and weathering are examples of taphonomic factors which can to some degree alter the composition of a bone assemblage. It is well known that osteological remains ravaged by scavengers have lower frequencies of bones from juveniles, animals with

delicate bones, such as birds, and body parts with low density like vertebrae.²²

Post-depositional factors. The taphonomic loss caused by diagenetic factors, bioturbation and excavation methods on bone depositions is also important to evaluate. These taphonomic factors can obviously not be considered a part of the ritual process, but it is as important to study since they may drastically change the composition of the bone assemblages and thereby affect the interpretations.

The taphonomy of a ritual bone deposition from Viking Age Frösö, Sweden

During excavations in the choir of Frösö church in 1984, the remains of a partly decomposed birch tree stump surrounded by a dark layer with bones and fire-cracked stones were found. The composition of the bone assemblage and the archaeological context with the birch tree remains indicate that it most likely represent the remains of the *blót*, the Old Norse ritual of animal sacrifices and ceremonial feasting.²³

The find is one of the most striking evidences of place continuity between pre-Christian and Christian cult in Scandinavia, with the choir, the most sacred part of a church, built on top of an Old Norse cult place.²⁴ Trees were important in the Old Norse cult practice and there are several examples in the written sources of rituals associated with trees.²⁵ The most famous is the description of the *blót* (sacrifices) in Gamla (Old) Uppsala written by Adam of Bremen in *Gesta Hammaburgensis* from the end of the 11th century: “The sacrifice is of this nature: of every living thing that is male, they offer nine heads with the blood of which it is customary to placate gods of this sort. The bodies they hang in a sacred grove that adjoins the temple. Now this grove is so sacred in the eyes of the heathen that each and every tree in it is believed to be divine because of the death or putrefactions of the victims. Even dogs and horses hang there with men.”²⁶ The world-tree, Yggdrasil, played a central role in the Old Norse cosmology and was believed to be standing in the centre of the cosmos connecting the different worlds.²⁷

²¹ Ekroth 2009, 139–140.

²² Lyman 1994; Munson 2000.

²³ Iregren 1989.

²⁴ Bergner 1987; Andrén 2002.

²⁵ Näsström 2002, 114–116.

²⁶ Adam av Bremen 4.27.

²⁷ Holmberg 1922; Andrén 2004, 390–391; Näsström 2006, 27–29.

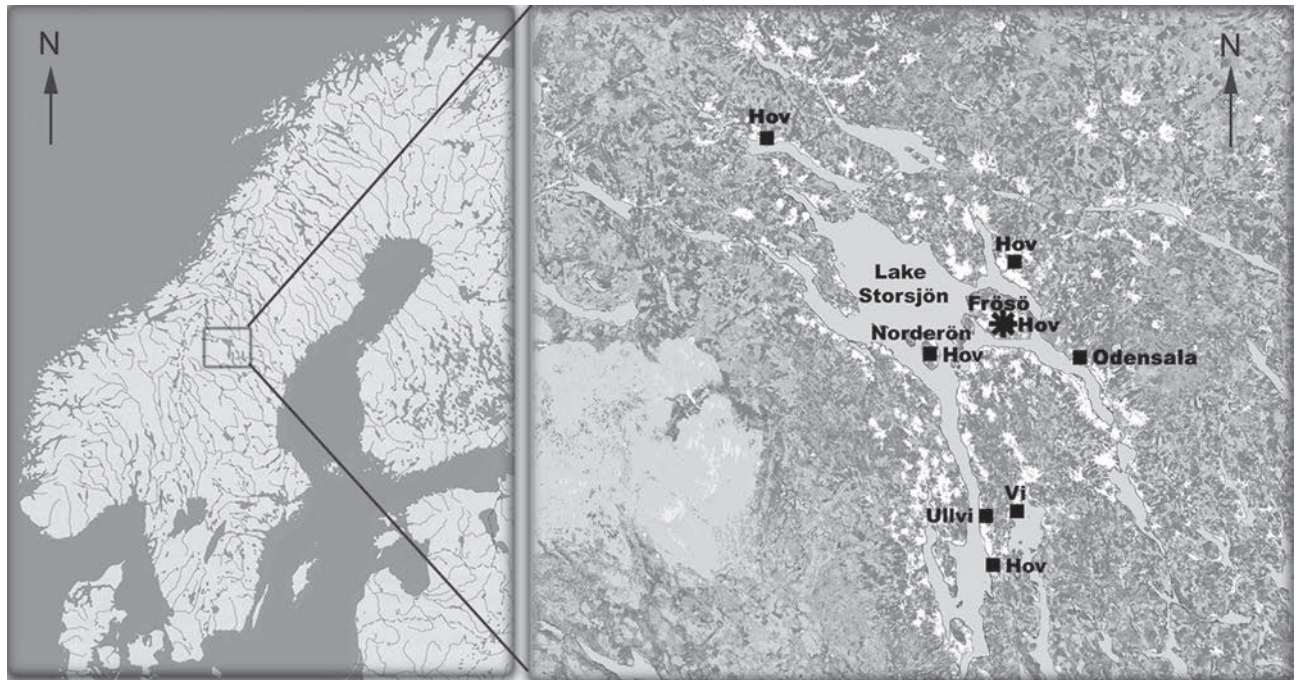


Fig. 1. Frösö church (*) and other place names in the area around Frösö and Lake Storsjön, which relate to Old Norse cult and religion.

Frösö is an island situated in the Lake Storsjön in the county of Jämtland in the middle of Sweden (Fig. 1). The island was probably the religious, social and political centre in the region during the Viking Age (AD 800–1050).²⁸ In the area around Frösö, several place names are associated with the gods Odin, Ull and Njord or pre-Christian cult sites and this has been proposed to reflect a sacred landscape (Fig. 1).²⁹ Frösö actually means “the island of Freyr”; Freyr was the most important god in the Old Norse mythology beside Odin and Thor. The place where the church stands is called Hov, which was the Old Norse name of a site with a building with a sacred function, where sacrifices and ceremonial feasts were held.³⁰

Radiocarbon dating of the tree remains and bones show that the ritual depositions of bones took place in the late 10th and early 11th century AD and seem to have ended when the area around Lake Storsjön was Christianized.³¹ The latest pre-Christian graves in the area are from AD 1020–1030 and on a rune stone from Frösö, dated to AD 1060–1090 it can be read that Jämtland was Christianized by Östman, the son of Gudfast.³²

Selection of animals

When compared with other sites in the Lake Storsjö area that date from the Late Iron Age to Early Middle Ages, it can be seen that the frequency of wild animals in the bone assemblage from Frösö church is much higher than in bone assemblages from settlements.³³

The most striking feature is the high abundance of bones from brown bear, a species usually present with just a few single bones, if any, in settlements (Fig. 2).³⁴ The elk is also more frequently represented in the finds from Frösö church than in settlements on the island Frösö and probably reflects the relative importance the animal had at settlements on the mainland around Lake Storsjön.³⁵

The occurrence of teeth from red deer is also interesting, since bones from this species are not found in settlements in the area. It seems that body parts of red deer may have been

²⁸ Welinder 2008; Hemmendorff 2010.

²⁹ Brink 1990, 292–297; Vikstrand 1993.

³⁰ Vikstrand 2001, 271; Sundqvist 2007, 159.

³¹ The deposition is radiocarbon dated with three datings of charcoal, two datings of wood from the birch tree, six datings of animal bones and four datings of human remains, see Magnell & Iregren 2010.

³² Gräslund 1992; Welinder 2003.

³³ The NISP (Number of Identified Specimens) of wild mammals from Frösö church is 58%, while the corresponding frequency from three sites on Frösö are 0–3% and 25% at the site at Kyrklägdan on the mainland around Lake Storsjön, see Magnell & Iregren 2010.

³⁴ Two specimens of brown bear were found at the settlement at Kyrklägdan. Otherwise there are no finds of this species at other sites in the area, see Holmberg 1985 and Magnell & Iregren 2010.

³⁵ From Frösö church 13% of the NISP is from elk, while the corresponding frequency on settlements from Frösö is 0–3% and from mainland Kyrklägdan 23%.

transported to Frösö from more remote areas.³⁶ In addition, metapodials from red squirrel, and single bones of capercaillie, pike and salmon were found. Unfortunately no sex estimation of the bones from bear and elk was possible. Ageing shows that both juveniles and adult elk and bear are present and thus indicates that no selection of a specific age group was made. The killed elk and bear probably reflect the age of hunted animals.

The common domestic farm animals during the Viking Age are present: cattle, pig, sheep, goat, horse, dog and domestic fowl, but the relationship between different species is of note. Pig is clearly the most important of the livestock species, with its bones comprising 61% of the remains of domestic animals (Fig. 2). On sites from this period by Lake Storsjön and in the middle of Sweden, cattle is usually the most frequently found species followed by sheep or goats, while pig often is the third most important animal.³⁷

Interesting to note is that horse and dog, two species often associated with rituals in Iron Age Scandinavia, are only represented by a single bone each, which suggests that these animals were not important in the rituals on this site.

The occurrence of human remains from at least two adults, one child about 3–5 years of age and one infant can also be seen as evidence of this being a special bone deposition. At first, the human remains were considered to originate from later burials in the church, but radiocarbon dating shows that they are contemporary with the animal bones and older than the church. However, it is uncertain whether the human remains actually are part of the same deposition as the animal bones or not (see below).

The age estimation shows that all mandibles or loose mandibular teeth, except one tooth fragment, are from piglets slaughtered at 2–9 months of age.³⁸ This is different from the normal kill-off patterns of pigs from Iron Age settlements in Scandinavia where consistently most pigs are slaughtered at the age of 1.5–3 years.³⁹ For sheep, primarily bones of young animals about 6–9 months are represented, but adults do occur. The sample for sheep is small, but does not seem to differ from the typical kill-off pattern at settlements. Cattle

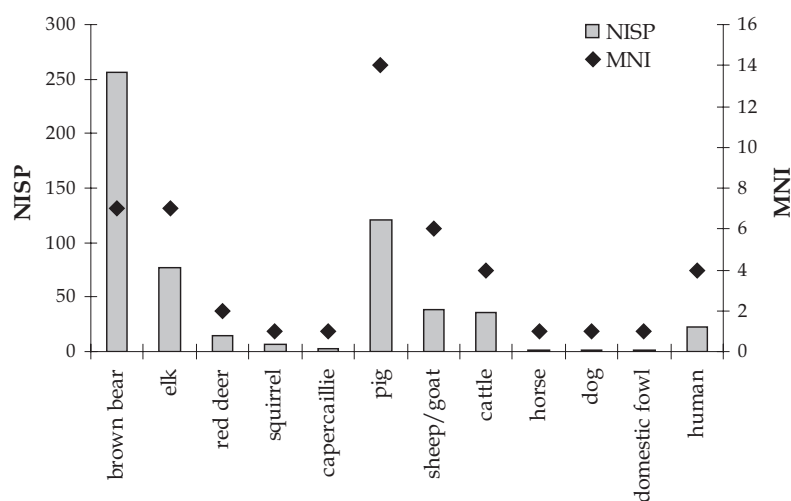


Fig. 2. Number of identified specimens (NISP) and minimum number of individuals (MNI) of mammals and birds from Frösö church. Two bones of pike and one of salmon have not been included in the figure.

is represented by most age groups, from newborn calves to subadults, from adult to very old animals. Newborn or very young goats have also been identified.

The killing

There is no evidence to indicate how the animals were killed, but something can be said about where and when. It is likely that the domestic animals were killed somewhere near the birch tree, but elk and especially brown bear most likely were not killed on Frösö. The area of the island is too small to hold a population of bear and the animals must have been killed on hunting grounds at some distance and then been transported to Frösö.

The seasonality of the killing of animals has been studied through age estimation based on tooth development and tooth wear.⁴⁰ The seasonal analyses of domesticated animals, like pigs and cattle, are problematic because their reproduction and breeding are not tied to a specific period.⁴¹ However, in areas with large seasonal variations in climate and food supply, such as mid-Sweden, breeding of livestock is usually

³⁶ The nearest find of red deer is from Krankmårtenhögen in Härjedalen, but also on this site bones of red deer are few, see Ambrosiani *et al.* 1984, 69.

³⁷ On other Iron Age and Early Medieval sites in the region 13–26% of the NISP of domestic animals is from pigs.

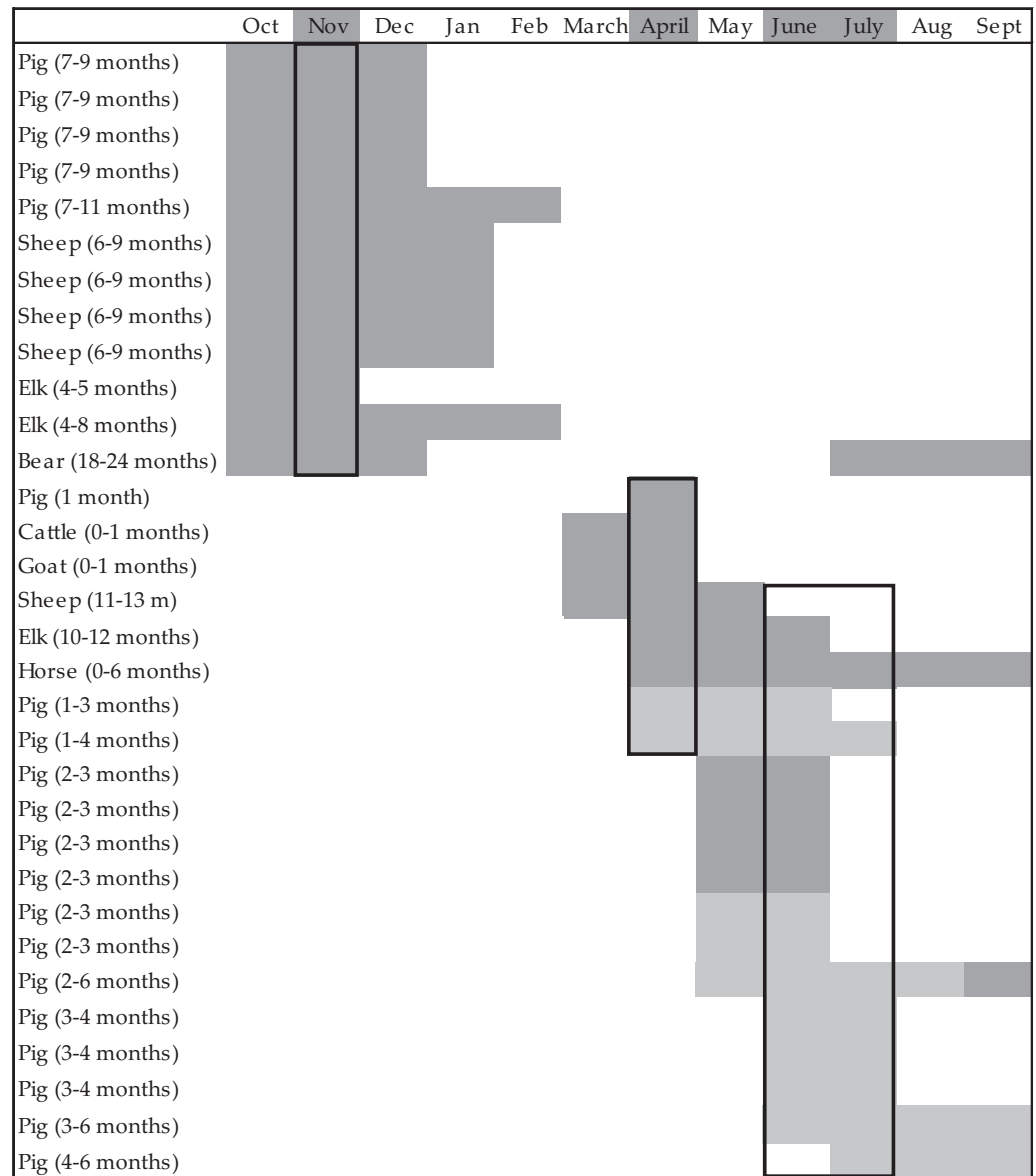
³⁸ Age estimation based on tooth development according to Carter & Magnell 2007.

³⁹ Magnell & Iregren 2010.

⁴⁰ Age estimation based on development and wear of teeth of pig, cattle, sheep and elk according to Brown *et al.* 1960; Jones 2006; Carter & Magnell 2007; and my forthcoming study *Age assessment of moose based on mandibular molariform tooth development*.

⁴¹ Lauwerier 1983.

Fig. 3. Seasonality of killing of animals deposited by the birch found in Frösö church. Black rectangles indicate suggestions of the three shortest possible periods of killing. Dark grey shows certain seasonal indicators of animals with limited breeding period, while light grey shows more uncertain indicators of animals with unrestricted breeding, but with most plausible birth in spring.



concentrated to spring in order to increase the survival of the offspring.⁴² The seasonal evidence indicates at least two, possibly three seasons of killing; in late autumn, early spring and maybe around the summer solstice (Fig. 3).

According to written sources, a *blót* was held by the end of October, which correlated with the beginning of the *winter nights*, as the winter half-year was called. This was pos-

sibly also the beginning of the new year according to the pre-Christian calendar. At the vernal equinox by the end of March, three months after the winter solstice, people gathered to make sacrifices dedicated to *diser*, a group of female fertility deities. There are few and vague historical sources, which indicate sacrifices during the summer.⁴³

⁴² For a more detailed discussion of seasonal reproduction of livestock in Sweden see Magnell & Irgren 2010.

⁴³ Nordberg 2006.

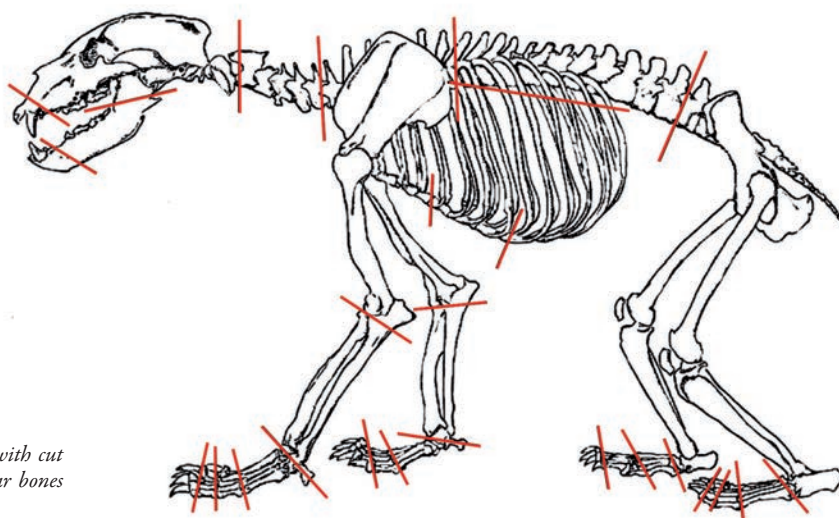


Fig. 4. Bear skeleton showing body regions with cut and chop marks from dismembering on bear bones from Frösö church.

Processing and utilization of the carcasses

Cut and chop marks indicate that the carcasses were thoroughly utilized (Fig. 4).⁴⁴ Marks on bear bones show that the animals were skinned, dismembered at most joints and that the meat was cut from the bones. Missing distal phalanges and skinning marks show that the furs of the bear were removed. Chopping marks by the alveoli of the canines also show that the canines were extracted and removed, probably to be used as amulets or ritual objects. Cut marks, blackening and cracks on teeth indicate that elk, pig and sheep mandibles with tongues were cut from the head and cooked over fire. It is clear that people feasted on the meat of the animals and only bones, mainly mandibles, were left for the gods.

Deposition

The bone modifications clearly show that no whole carcasses were hung in the trees as mentioned in written sources and which also has been suggested to have happened at the cult site on Frösö.⁴⁵ Instead, mainly single bones and mandibles from domestic animals and elk were deposited by the tree (Fig. 5). The body part frequency indicates a different treatment of brown bear with bones from most parts of the body, but mainly mandibles and bones from the paws (lower extremities) (Fig. 5).

Weathering indicates that the bones probably were exposed for a while, possibly lying on the ground around the tree before the bones became covered by soil formed from decaying leaves and refuse.⁴⁶

Difference in colour and texture together with almost no weathering on the human bones from the site indicates that the human remains were treated differently from the animal bones. The excellent preservation of bones of an infant and a child shows that the bones or the corpses most likely were buried. It is uncertain whether the human bones represent the sacrifice of humans. Possibly, the human remains represent missed bones from burials which were exhumed and repatriated elsewhere during the construction of the church in the late 11th century. The human remains consist of phalanges, carpals and tarsals, bones that often are missed even in archaeological excavations of burials. Bones of infants and children are also often misidentified as from animals rather than humans.

Post-depositional factors

Diagenetic factors and bioturbation have clearly affected the bone assemblage. The recovered bones probably represent a small portion of all the animals sacrificed and bones placed on the site. From the youngest individuals, as an example, only teeth were preserved and the bones have been lost. Bioturbation could be seen by the intrusion into the soil layers bearing the bones of autochthonous fauna living in the

⁴⁴ All butchering marks have been studied using a stereo-microscope in order to verify their authenticity.

⁴⁵ Näsström 2002.

⁴⁶ The bones have one side more exposed to weathering with longitudinal cracks typical of bones exposed to weathering lying on the ground.

church such as jackdaw, rodents, and frog. These bones differ in colour and texture from the animal bones dated to the Viking Age.

Discussion

The analysis of the taphonomic history of the bones from Frösö church has made it possible to follow different stages of the rituals that took place at the site and to understand some aspects of the deposition. The selection of the animals reveals different aspects of the rituals at the site. The high occurrence of wild animals, most likely not hunted on Frösö island, indicates that the deposition does not represent private rituals at a settlement, but rather public sacrifices and a ceremonial feast involving a larger area around Lake Storsjön, probably hosted by the local elite and custodian of the cult place.

The combination of bones of brown bear and the birch tree could possibly be the outcome of rituals that were influenced by Saami religion and rituals. The rituals on Frösö have been proposed to represent a fusion of Old Norse and Saami traditions and rituals.⁴⁷ In Saami religion the idea of a world-tree or pillar of the world which holds the world up is found. The world-tree in Saami mythology is also a birch.⁴⁸ The importance of brown bear in the rituals could be explained by the standing of the species in Saami mythology and ritual practice, such as bear burials. Among the Saami the bear was sacred, but not a deity and was not worshipped. Myths describe the relationship between humans and the bear. The hunt, butchering, consumption and deposition of the bear bones were associated with a complicated set of rituals ending with the burial of the bones.⁴⁹ Bear burials in northern Scandinavia have a long tradition with the earliest dating to the 3rd century AD and the last from the 19th century.⁵⁰

However, the killing and ritual consumption of meat of the most powerful and dangerous carnivore in the Scandinavian fauna in order to gain strength and courage can also be understood from the Viking Age warrior culture. Descriptions of drinking bear blood in order to gain the power and

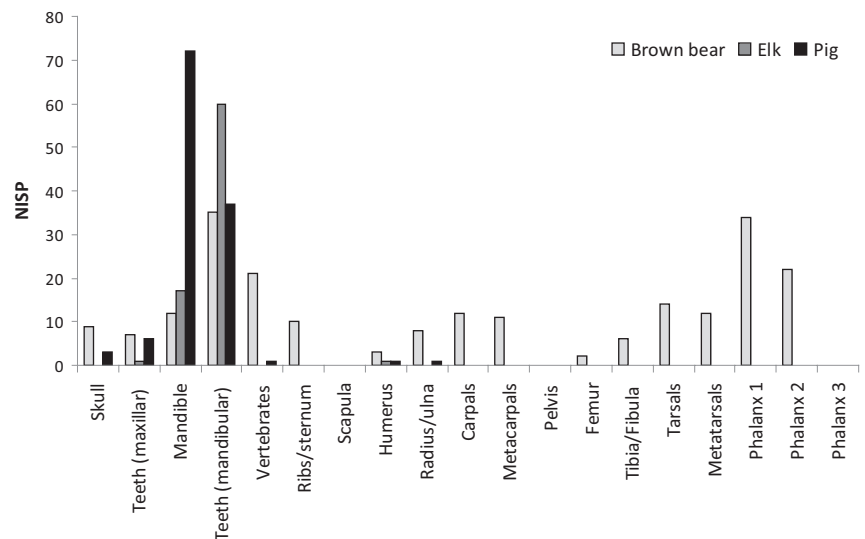


Fig. 5. Body part frequency (NISP) of the three most frequently-occurring species from Frösö church.

strength of the animal are found in Saxo Grammaticus' historic chronicle *Gesta Danorum* from the 12th century AD.⁵¹

The finds of teeth of deer and metapodials of squirrel can be associated with the Old Norse mythology and the descriptions in *Eddan* of the world-tree Yggdrasil where the squirrel Ratatosk is running up and down the tree and the deer Dain, Dvalin, Duneyr and Durteio are grazing on its twigs.⁵² It is possible that the remains of the squirrel and deer were used in a ritual staging of the mythology in a symbolic transformation of the birch tree into the world-tree.⁵³

Of the domestic animals, pigs and especially piglets were specifically selected to be sacrificed. According to written sources, sacrifices of pigs were dedicated to the fertility god Freyr,⁵⁴ which is further confirmed by the name of the island, Frösö or the Island of Freyr.

The few horse bones show that the species was not important in the rituals at Frösö. This is in contrast to the prominent standing that the horse has in the written sources about the Old Norse sacrifice.

Seasonal analysis shows that the killing and rituals took place in two or possibly three periods; late autumn, early spring and in summer. Sacrifices in late autumn took place in the beginning of the *winter days*, which also is the Old Norse ceremonial feast that is mostly known from the written sources. Rituals were most likely performed in gratitude for a good year and for a following prosperous year in animal

⁴⁷ Näsström 1996, 77; Welinder 2008.

⁴⁸ Hultkrantz 1996; Mebius 2003.

⁴⁹ Fjellström 1981; Zachrisson & Iregren 1972; Edbom 2000.

⁵⁰ Myrstad 1996, 46.

⁵¹ Saxo Grammaticus 2.6.11.

⁵² *Eddan*, *Grimnismál*, verse 32–33.

⁵³ Iregren 1989, 130.

⁵⁴ Näsström 2002.

breeding and hunting. The killing of animals in early spring can be associated with the description in the written sources of sacrifices at the vernal equinox by the end of March dedicated to *diser*, fertility deities, in order to ensure a good year's crop and reproduction of the livestock. Sacrifice in summer was possibly made to ensure a good harvest. Interesting to note is that there seems to be no clear evidence for the sacrifices at midwinter that are known from written sources.

The deposited elk mandibles are from animals killed in late autumn and late spring. Nothing is known about any hunting regulations from the Viking Age, but in the earliest laws from Sweden from the Middle Ages, such as *Dalalagen* (AD 1250–1320), the hunting season begins in the end of autumn and ends in the end of spring.⁵⁵ Possibly, the mandibles represent depositions of bones from the first and last animals killed in the hunting season that were dedicated to the gods.

Traces of butchery and cooking show intense utilization of the carcasses and indicate that feasting on meat from the animals was important. Cut and chop marks show that the carcasses were dismembered at most joints and nothing indicates that whole carcasses were hung in the tree as is described in written sources of the sacrifices in Uppsala.

After the slaughter and the feast the body part frequency shows that mainly mandibles were deposited on the ground by the birch tree. The tree probably symbolized the world-tree and functioned as a mediator between the humans and the gods. The different treatment of the bears of which bones from all body regions are represented could be explained by the fact that the rituals were influenced by Saami ceremonies.

By trying to reconstruct the taphonomic history, it has been possible to follow the process of rituals on Frösö from the selection of animals to the killing and further to the deposition of bones. The result of the study also shows that some aspects of the rituals at Frösö do differ from the written sources and the prevailing conception of Old Norse sacrifices, while other aspects are in accordance.

It is important to consider that large local variation and adaptation in cult practice existed during the Viking Age in Scandinavia and the rituals revealed by the taphonomic analysis of the zooarchaeological remains at Frösö church represent how the sacrifices were performed at the island of Freyr and regional aspects of the Old Norse cult practice.

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⁵⁵ Nordberg 2006, 39.

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“Side” matters: animal offerings at ancient Nemea

Abstract*

As the locus of the Nemean games, Ancient Nemea was an important Greek cult and festival center, especially during the Archaic period (6th–5th century BC). Examination of excavated faunal materials deriving from “sacred” and “secular” contexts at the site yields clues about the distribution of meat to gods (such as Zeus, the patron deity of the area), to heroes (in this case Opheltes, on whose legendary death the Nemean Games were founded), and to the mortal officials, spectators, and athletes participating in the events at Nemea. As regards “sacrificial” assemblages, most of which consisted of bone remains of burnt offerings as collected from altars and other ritual-type contexts, the data indicate a preference for sheep as the standard sacrificial animal, but show a definite preference for the hind limb sections of the left side in the case of sacrifice to the hero Opheltes, as opposed to the god Zeus. “Secular” deposits show different trends, such as the presence of unburnt bones, or the remains of wild animals and fish, taxa not typically sacrificed in Greek antiquity. Examination of zooarchaeological remains from various contexts at the site, at one level, and across other sites, at a larger level, helps develop a larger more integrated picture of animal use in ancient Greek cult practices.

Introduction

In both modern and archaeological contexts, a divide is often drawn between seemingly opposing concepts: “sacred”/“secular”, or “ritual”/“regular”. This distinction, however, is often marked by assumptions about what consti-

tutes such assemblages or practices—assumptions, in turn, often drawn from incomplete databases of materials associated with either activity, sometimes both. This is particularly problematic in archaeology, where materials are limited, and contexts, or associations, less secure. As such, there is a pressing need to compare as many types of deposits as possible at a site to contextualize, or situate, findings from any single deposit. What originally may have been deemed “sacred” on the basis of location or in terms of unique sets of finds may in fact not be the case when broader comparisons, both within and outside the site, are drawn. We cannot hope to understand the intricacies of cultural behaviour without examining the preconceived assumptions we bring regarding “sacred” and “secular” activities, and without analyzing materials, such as animal bones, which span both ends of this behavioural spectrum. Such research is necessary to add texture to our knowledge of human nature, and, in turn, to broaden our understanding of our cultural heritage and existence.

This analysis seeks to examine this sacred/secular dichotomy using archaeological animal bones recovered from ancient Nemea, Greece. The site, located in an upland valley in the modern Greek province of Korinthia, had been inhabited sporadically since prehistoric times, but underwent significant development in the early Archaic period (first half of the 6th century BC), with the founding of the Nemean games (573 BC), events akin to the Olympics. Thereafter, games were held, biannually and presumably in the summer months, over the course of two temporal episodes in the past: (1) roughly 573 to 410 BC and, (2) ca 330 to ca 270 BC. Activity at the site between 410 and 330 BC appears minimal (no games were held), and the site declines after ca 270 BC. A renewed community focus to the site is established to some degree during the 5th and 6th centuries AD with the construction of an Early Christian basilica atop the ruins of the ancient Xenon (a lodging area for participants in the Nemean

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games). Thereafter, the site was more or less abandoned, with little settlement activity within its confines.¹

Since the early 1970s, excavations at Nemea (under the direction of Dr Stephen Miller, University of California at Berkeley) unearthed finds, including animals bones, from various contexts, some deemed “ritual” or “sacrificial” (often on the basis of placement, architectural patterns, or recovered votive artifacts—not necessarily or exclusively the best indicators of “ritual” activity), and others seemingly more “secular” (often due to a lack of associated “ritual” paraphernalia). This dichotomy, which inherently carried with it an underlying “either/or” option to labeling finds—“ritual” or “non-ritual”—created problems, in that bone materials that may have factored in both aspects simultaneously, or ones that blurred the distinction between these two realms, might prove complicated to assess. Consequently, attention focused on determining the degree of correspondence among “sacrificial” and “secular” zooarchaeological deposits. How similar or different were bone materials from each, in terms of aspects such as condition, placement, amount, species and parts present, modifications, and other observable properties? Moreover, how do patterns from Nemea relate to other “ritual” and “secular” zooarchaeological assemblages recovered from contemporary archaeological sites in the Greek world? These form the questions of this current analysis.

Although animal sacrifice is a popular component of investigation into cult worship in Archaic and Classical Greece, it is also an aspect that is displaying increasing complexity and diversity with the analysis of each new sacrificial deposit. Animals were offered to a variety of ancient Greek deities and heroes, but the specific details related to each are not always clear. Through a combination of literary, epigraphic, iconographic, and archaeological evidence we are able to draft accounts pertaining to various deities and heroes. For example, pigs seem to be the chief animal sacrificed in the cult of Demeter; goats achieve importance in that of Aphrodite, while cattle often figure in sacrifices to Zeus.² Typically, animals were burnt on the altar or in a special pit, with portions of their carcasses offered to the gods or heroes.

The site of ancient Nemea provides an excellent opportunity to reconstruct aspects of cult worship in Archaic Greece, aspects that are not recorded in the current available corpus of textual, epigraphic or iconographic data. The site is associated with worship of Zeus, the patron deity of Nemea, who

received sacrifices at the altar outside his temple. Both the Temple and the Altar of Zeus (with associated charred and calcined faunal materials) were excavated at the site. Nemea is also linked with the cult of the child hero Opheltes, who, according to Greek myth, was strangled to death by a snake when his nursemaid, Hypsipyle, placed him on the ground to attend to the Seven Argive generals marching against Thebes.³ Upon his death, Opheltes was given another name, Archemoros, meaning “beginning of doom”. In this guise, therefore, he had underworld connections. His death was subsequently honoured with the founding of the Nemean Games and with the erection of a shrine to him at the site. This Hero Shrine, or Heroön, is even verified in the ancient texts, its location and general plan outlined by Pausanias (2.15.3). It is a lopsided, pentagonal-shaped, unroofed enclosure that lies in the south-western section of the excavated area of the site (*Fig. 1*). It was first constructed in the early Archaic period, around the first half of the 6th century BC, and enclosed by a stone fence. Entering from the north-east corner, one would have found several altars, and the tomb of Opheltes within the Heroön.

While the ancient sources, textual and iconographic, provide some details about the myth of Opheltes,⁴ little is known about his actual worship in a hero cult. The analysis of materials collected from within the Heroön at Nemea, therefore, provides an ideal opportunity to reconstruct these aspects and determine how ritual and sacrifice in the cult of Opheltes paralleled or contrasted with other cult practices, both locally (such as worship to Zeus, who was also honoured at Nemea), as well as within the larger domain of the ancient Greek world.⁵

Before venturing forward, however, it is important to address critical limitations and biases in this investigation. As with all archaeological work, the typical complications of preservation, recovery, and taphonomy must be understood, given that many materials, such as botanicals, scented oils, and so forth, might leave no archaeological traces (or at least not readily or easily detectable traces); neither might a host of behavioural indicators, such as prayers, blessings, chants, dances, and so forth. All of these components could certainly have factored in both “ritual” and “non-ritual” cultural practices of the past. Consequently, it is important to draw upon ancient textual, mythological, iconographic, anthropological, and social historical data for assistance in contextualizing the larger framework of ancient life. The inclusion of these

¹ See Birge *et al.* 1992 and Miller 2004 for further details about temporal periods represented at Nemea, and a larger list of publications about the site.

² Kadletz 1976 summarizes much of this information, and provides a longer discussion of the various animals offered in sacrifice to Greek and Roman deities, as recorded within the ancient Greek and Latin texts.

³ Paus. 2.15.3; Apollod. *Bibl.* 3.6.4; Hyg. *Fab.* 74.

⁴ See Simon 1979 for a broader discussion and further references.

⁵ A volume about the Heroön excavations at Nemea, with reports on the chronology, context, stratigraphy, and finds, is currently in press (see Miller, forthcoming).

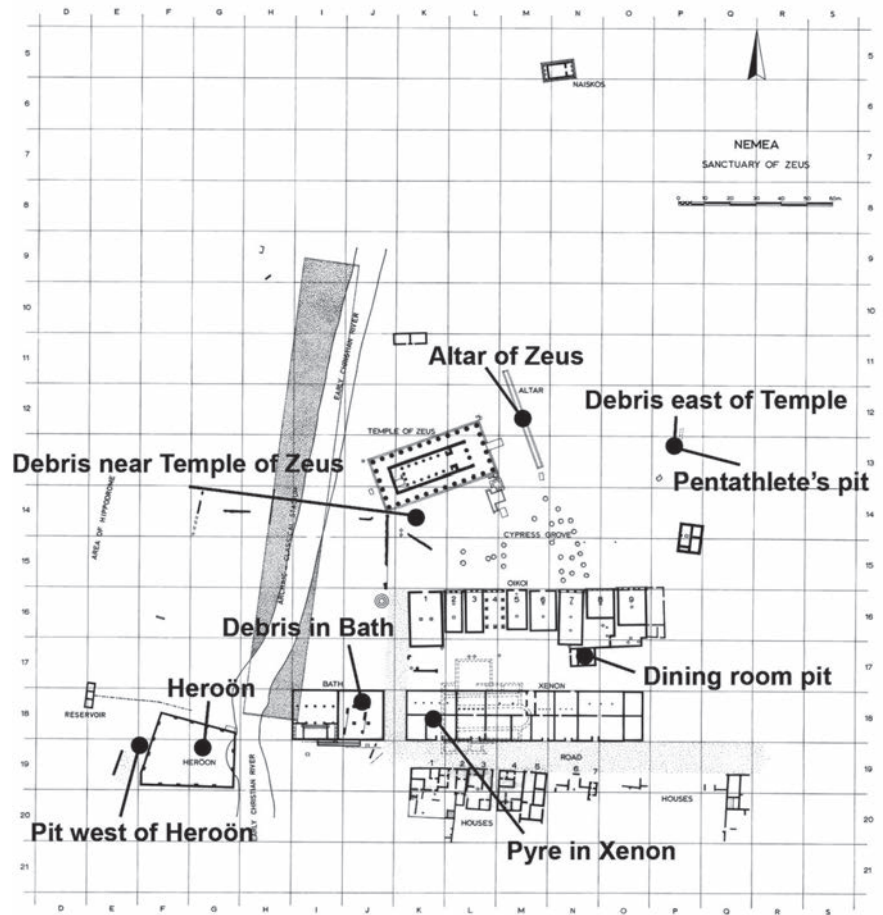


Fig. 1. Plan of Nemea, showing locations of faunal deposits excavated.

sources for this investigation of “sacred” and “secular” activities involving animals and their resources at Nemea, however, is not meant to be exhaustive, and each in turn has its own biases. Still, incorporating a larger interdisciplinary approach provides a sounder basis on which to learn more about ancient Greek ritual and secular activities involving animals, than a reliance on any single source might provide.

Contexts, recovery, methodology and general condition of the bone material from Nemea

The Nemea bones were analyzed on two separate occasions: the Heroon deposits in July 2003 and the remaining contexts in July 2005. Materials were examined in Athens at the Malcolm H. Wiener Laboratory at the American School of Classical Studies at Athens, using the comparative faunal collec-

tions, osteological reference manuals, microscopes, and other resources available at the Laboratory. All identifiable pieces that could be recorded to element and species/taxonomic level were catalogued. Quantification of these followed several lines. First, NISP (the Number of Identified Specimens, a standard count in zooarchaeological quantification) counts were taken. Such figures took into account individual teeth within mandibles and maxillae. Thus, a mandible fragment with three teeth yields a NISP count of “4” (i.e., three teeth, plus the mandible piece itself, equals a total of “4”). Second, ribs, vertebrae, and miscellaneous long bone and cranial fragments that could not be identified securely to species were grouped according to general size categories (e.g., large=cattle-sized; medium=ovicaprid⁶- and pig-sized) and their numbers tallied for analysis. Finally, MNI (=Minimum

⁶ The term “ovicaprid” encompasses both sheep and goats, and is used interchangeably with “sheep/goat” in this report. The two taxa are often grouped together in zooarchaeological analyses because of their similar osteology.

Number of Individuals) counts factored in ages groups of fetal, juvenile, sub-adult, and adult in assessing figures. Bone weights were also determined for all categories investigated. Epiphyseal fusion parameters follow Silver;⁷ dental wear stages correspond to the schemes devised by Grant⁸ and Payne.⁹ Measurements follow the guidelines of von den Driesch.¹⁰

Figure 1 presents a plan of ancient Nemea, noting in particular regions where faunal material was recovered. In general, deposits throughout the site were not deeply buried; stratified collections surfaced at depths of around 50 cm below ground level in many cases. The upper layers over much of the site were disturbed by plowing in Early Christian times, but lower stratified deposits, especially those from pits and hearths, appear relatively protected from such disturbance. Bones, at least those from stratified and critical levels and deposits, were routinely collected. Moreover, these contexts were normally sieved (5 mm mesh), so recovery biases are

relatively standardized across assemblages. It is assumed that all bones available to be retrieved were in fact uncovered and examined. Still, in terms of overall mass and NISP counts, the Nemea assemblages are not particularly large, a finding that suggests that the bulk of faunal waste was probably removed from the site, or lies in areas as yet unexplored.

During excavation, several of the contexts explored were labeled as “sacrificial”, primarily on the basis of location (e.g., Altar of Zeus, pit west of Heroön). Others, however, were also given this “sacrificial” designation but with less secure spatial connections to such activities (e.g., Dining Room Pit near Xenon, pyre in Xenon, Pentathlete’s Pit, sacrificial debris in the Bath). In some cases this material was burnt, but the degree of this was not always consistent, both within and between assemblages. Table 1 provides a summary of each context (with particular reference to the faunal material recovered) as reported by the excavators.

Table 1. Location labels, dates, and contextual details for faunal deposits from Nemea.

Context	Label from excavation	Date	Details
F19:44	Pit west of Heroön	5th/6th c. BC–3rd c. BC	- excavated to decipher chronology of Heroön construction - presumably “sacrificial” in nature, due to association with Heroön
G18 & G19	Heroön	5th/6th c. BC–3rd c. BC	- pits and trenches within Heroön - presumably “sacrificial” in nature
J18:45 & 47	“Sacrificial debris” in Bath	5th c. BC	- shallow pit containing large number of bones - designated “sacrificial” but unsure relationship of deposit to neighboring structures
K14:15	Debris near Temple of Zeus	5th c. BC	- trench along south side of Temple of Zeus - dug to probe the deeper levels of the <i>plateia</i> - labeled “sacrificial” but also clear that no sacrifices took place directly here (at least in the open trench)
K18:2	Pyre in Xenon	4th c. BC	- hearth in Room 4 of Xenon “kitchen” area; however, no remains of chimney - presumably not sacrificial in nature
M12:24	Altar of Zeus	Late 5th or early 4th c. BC	- west side of altar, filled with small burnt bone fragments, ash, flakes of carbon and pieces of miniature votive vessels - presumably “sacrificial” in nature, due to location and burnt nature of material
N17:73	Dining Room Pit	5th c. BC	- small pit north of kiln - generally regarded as “sacrificial” in nature (associated votive drinking vessels), although no traces of burning - might represent “ritual dining” and have association with Xenon buildings
P13:3	“Sacrificial debris” east of Temple	7th c.–3rd c. BC	- miscellaneous material from pit fill of Early Christian farming trenches and overburden - labeled “sacrificial”, but association as such not clearly outlined
P13:5	Pentathlete’s Pit	5th–3rd c. BC	“votive” deposit in SW corner of section P13 (east of Temple of Zeus) - pit contained burnt materials and smashed, over-turned vessels

⁷ Silver 1969.

⁸ Grant 1982.

⁹ Payne 1987.

¹⁰ von den Driesch 1976.

Table 2. General depositional and taphonomic information for faunal contexts from Nemea.

Context	Label from excavation	General depositional, taphonomic and burning notes
F19:44	Pit west of Heroön	• extremely fragmentary; tiny pieces (<1cm); ca 100% burnt • relatively undisturbed material; protected from post-depositional taphonomic factors
G18 & G19	Heroön	• extremely fragmentary; tiny pieces (<1cm); ca 100% burnt • relatively undisturbed material; protected from post-depositional taphonomic factors
J18:45 & 47	"Sacrificial debris" in Bath	• ca 1% burnt • poorly preserved; high incidence of erosion, mineral leaching and surface weathering through exposure; numerous split line cracks • some examples of carnivore gnawing
K14:15	Debris near Temple of Zeus	• extremely fragmentary; tiny pieces (<1cm); ca 100% burnt • upper levels disturbed; lower levels of interest (boundaries gradual between layers) • no evidence of other post-depositional taphonomic disturbance
K18:2	Pyre in Xenon	• ca 40% burnt • predominantly large fragments (many >5cm, or larger) • some evidence of surface weathering, leaching and erosion, especially on larger species of mammals
M12:24	Altar of Zeus	• extremely fragmentary; tiny pieces (<1cm); ca 100% burnt • relatively undisturbed material; protected from post-depositional taphonomic factors
N17:73	Dining Room Pit	• 0% burnt • fairly good preservation; low incidence of root etching, soil staining and weathering; however, no traces of carnivore gnawing
P13:3	"Sacrificial debris" east of Temple	• 0% burnt; miscellaneous pieces • small deposit; poor condition; eroded and leached, with much post-excavation breakage
P13:5	Pentathlete's Pit	• charred wood fragments; no bone recorded

Although these materials derive from various contexts, temporally most cluster between the 5th–3rd centuries BC, overlapping in large measure with those bones recovered from the Heroön (6th–4th centuries BC), or more generally within the Archaic and Early Classical periods. As noted earlier, the site was the locus for the Nemean games at two temporal episodes in the past: (i) roughly 573 to 410 BC and, (ii) ca 330 to ca 270 BC; however, the distinction between the two periods is not always distinguishable in the archaeological record, especially as concerns the faunal material. For the purposes of this comparative analysis, therefore, contexts will be grouped into one broad temporal bracket and considered as one larger unit of time. Some attention will be devoted to deciphering finer temporal trends where date ranges for deposits are more restricted and secure.

The natural vegetation throughout the Nemean region is a mix of scrub and grassland in the lower valley (currently under cultivation), with more forested patches in the surrounding hills (some now given over to vine and olive planting).

The lower valley is fertile and well watered, and has been a locus for farming throughout the ages, some of which, such as that during Early Christian times, has greatly disturbed underlying ancient levels at the site. Currently, the grounds of the site are landscaped. Several cypress trees have been planted in the area to conform to root pits outlining the sacred grove of Zeus (between the Temple of Zeus and the Oikoi), as well as a single cypress tree in the southwest corner of the Heroön. The condition of the faunal material among the various contexts examined here is mixed, which suggests a range of burial, disposal, and taphonomic factors operated in each case. *Table 2* summarizes the basic taphonomic information for each context.

The degree of burning and the degree of fragmentation are two key variables to highlight when comparing assemblages from the site. *Figure 2* graphically depicts the frequency of burnt and unburnt bone recovered from individual contexts at Nemea.

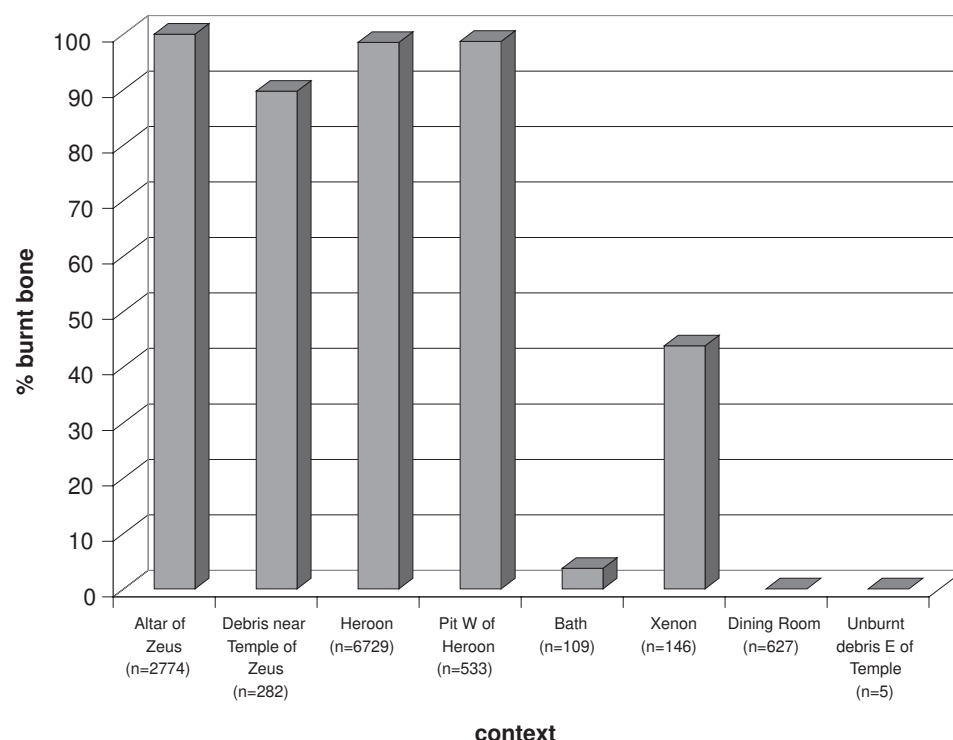


Fig. 2. Frequency of burnt bone (as fraction of total sample of bone within each context) from various contexts at Nemea.

Two distinct groups emerge from an analysis of *Figure 2*. Assemblages from the Altar of Zeus (M12:24),¹¹ its vicinity (i.e., K14:15, deposit near Temple of Zeus), and the pit west of the Heroön (F19:44) look overwhelmingly sacrificial in nature. All are comprised of tiny, charred and calcined fragments, similar in appearance to the sacrificial faunal material collected within the Heroön (G18 & 19).¹² The second group comprises unburnt assemblages from contexts further removed from the Temple and the Heroön (e.g., Bath, J18:45 & 47; Dining Room, N17:73). P13:3 is insignificant, faunally, since it yielded an extremely small assemblage of bones, none of which was burnt. P13:5 (Pentathlete's Pit) contained no bone materials, but did yield charred botanical and other remains. Although about 40% of the bones recovered from the Xenon (K18:2) were charred, this is not unexpected considering this context is associated with a hearth and other cooking facilities in this structure. Moreover, the nature of burning in the Xenon material was different than the Altar of Zeus and Heroön examples, in that far fewer pieces were calcined.

There is a strong similarity in the nature of the assemblages from the Altar of Zeus and the Heroön, which pro-

vide clues about their firing. Over 90% of the bones retrieved from these contexts are calcined. It appears that these were subjected to the full extent of the fire and for a period of time long enough to calcine them. Temperatures would probably have exceeded at least 400°C to produce this effect, and may have climbed upwards (but only for a short duration) to a maximum of 700–800°C judging by the presence of a number of warped and noticeably shrunken bones and the vitrified or glassy appearance of several pieces. An outdoor wood fire generally burns at 400–600°C, but requires constant addition of fuel to maintain this temperature. Wood will usually burn around 350°C.¹³ It is unlikely that any type of accelerant, such as olive oil, was used in any great degree in this fire, but the flames could have been doused with this fuel periodically to raise the temperature. More likely, however, olive wood was chosen as the source of fuel, since it has oil in it naturally, which makes it burn longer and hotter than other woods.¹⁴ Animal fat might also have acted as an accelerant, causing the fire to burn at a higher temperature and aiding in a quicker cremation of remains. The presence of small transverse heat fractures on numerous long bone fragments from the Altar of Zeus and Heroön contexts indicates that many of these bones were placed in the fire with meat and fat

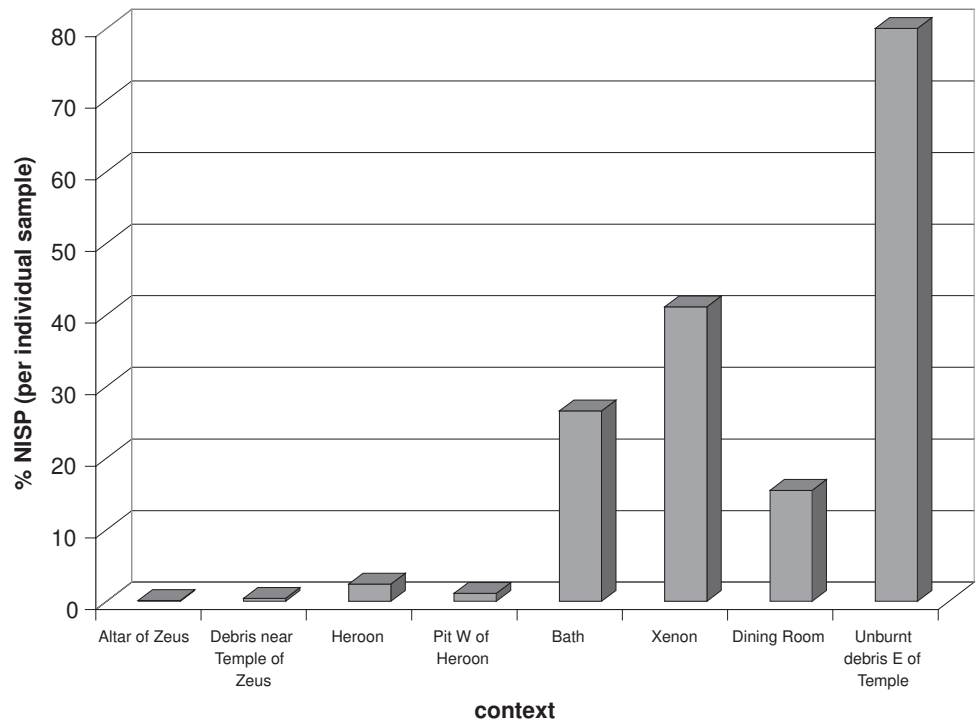
¹¹ Deposits are marked here by Grid Section Number: Pottery Lot Number.

¹² The Heroön materials in this case include any bones collected from all pottery lots from Grid Sections G18 and G19.

¹³ Tylecote 1962, 25.

¹⁴ Platt 1992, 10.

Fig. 3. NISP frequencies among various contexts at Nemea.



still attached, or at least with some type of covering, perhaps wrapped in the fatty *omentum*, or stomach lining.¹⁵ It is impossible to tell conclusively from the recovered bone remains which of these techniques may have been used, however.

The degree of calcination would also depend on the thickness of the bone, and indeed the data support this observation. The thinnest bones, such as those from the cranium, show the highest frequency of complete calcination. Long bone fragments show a greater range of incomplete and complete calcination, with the relatively thinner examples from medium-sized mammals being more completely burnt, in contrast to those from larger-sized mammals, which more rarely achieved this state. From these observations, an estimate may be presented that the sacrificial fires of the Heroön and the Altar of Zeus at Nemea were wood fires (quite possibly olive wood), stoked periodically to maintain a constant temperature of about 400°C, and further fueled through the sacrifice of bones that were surrounded by fatty and fresh cuts of meat, as opposed to defleshed and degreased dry bones. Fresh bone itself is somewhat greasy and its addition could help accelerate the fire, but larger portions of fatty tissue would burn more readily and raise the fire temperature more effectively. The prevalence of transverse fracture lines, cracking, checking, and irregular longitudinal splitting on

the bones confirms that the bones were covered with some meat or fat, be this in their original meaty state or artificially wrapped by humans. In terms of a time frame for the fire, a suggestion may be presented that much of this occurred within the space of an hour or so. Fires maintained for much longer than this (and at the higher temperatures required) would have likely resulted in a greater frequency of calcination among the bones of larger mammals especially. This does not, however, exclude the fact that some carcass parts may have been placed within the heart of the fire, while others (perhaps the larger mammalian long bones) sat on the perimeter and were not charred to the same degree. I assume that a deliberate placement as such did not occur. In all cases, however, it seems that these were controlled, contained, smaller fires, which is what one might expect in a ritual event.

Ancient textual and iconographic sources on Greek charred sacrificial rituals do not mention boiling any sacrificial bones prior to their burning, but then again, these sources do not always provide full details of events or clear procedures that are specific to, or universal across, all sacrifices. Regardless, zooarchaeological data suggest that it is unlikely that the bones were boiled in any way (such as in a stew), prior to burning. Boiling would remove much of the collagen, fat, and grease from the bone, drying it out ultimately. Consequently, such bone would be less likely to display the pattern of transverse fracture lines and warping with irregular longitudinal splitting and curved edges, as noted among the Heroön and

¹⁵ As discussed in van Straten 1995, 131.

Zeus assemblages examined from Nemea. Rather, boiled, dry bone would tend to crack and break along more parallel lines, producing more rectangular and regular pieces, which is not the case for the Nemean materials examined.

Fragment counts and weights provided another separator among faunal contexts at Nemea. Although all deposits were sieved, the Zeus and Heroön bones were highly fragmentary. As shown in *Figure 3*, generally less than 2% of the material retrieved from the Zeus and Heroön collections formed their respective NISP components, compared to larger values for other contexts. Moreover, as presented in *Figure 4*, the average weight per unit of bone for the Zeus and Heroön assemblages is at, or under, 1 gram, while corresponding values for the remaining contexts are substantially higher. The Zeus and Heroön assemblages were more fragmentary; but this was expected given they were also charred and calcined, processes that enhance bone breakage.

Although the high level of burning and concomitant fragmentary nature of the Heroön and Altar of Zeus faunal materials provides a strong argument for labeling them “sacrificial”, this does not necessarily, by default, brand those unburnt or

partially-burnt assemblages retrieved from the Bath (J18: 45 & 47), Dining Room (N17:73), and Xenon (K18:2) as “non-sacrificial”. If these latter groups had some sacrificial function, however, such activities were presumably not of the same magnitude or character as those associated with the Altar of Zeus or the Heroön. Nevertheless, an argument may be made that the Bath, Dining Room, Xenon, and unburnt debris E of the Temple contexts are not typical “sacrificial” assemblages, but rather more “secular” in nature, that is, relating to butchery and cooking for “regular” consumption. Such dining could have had ritual connections, however, so it is essential to associate these deposits (individually and as a group) with the Altar of Zeus and Heroön assemblages. For example, do the charred and calcined sacrificial materials (presumably the portion burnt for the god, Zeus, or the hero, Opheltes, depending on the context), represent the same skeletal elements as those from other assemblages (in which case similar parts and animals are being used), or do those portions of the skeletons that are missing from the Altar and Heroön deposits appear in the other contexts (implying a connection in the distribution of select parts, perhaps within a larger context of ritual feasting at the site)?

To understand these connections, it is important to assess each assemblage in greater detail. *Table 3* provides a breakdown of NISP and UNID portions for the Nemean contexts examined here.¹⁶

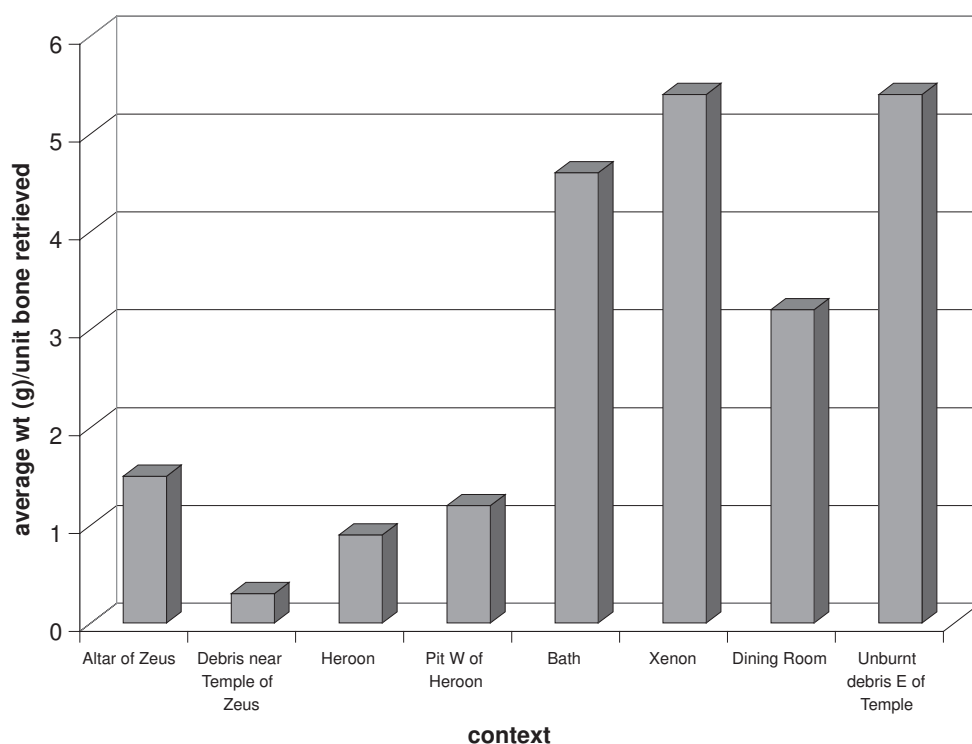


Fig. 4. Average weight (in grams) per unit bone retrieved among various contexts at Nemea.

¹⁶ Ribs, vertebrae, and miscellaneous long bone and cranial fragments that could not be identified securely to species/taxonomic level were grouped according to size categories (e.g., large = cattle-sized; medium = ovicaprid- and pig-sized) and counted as the “UNID” portion of the faunal assemblage.

Table 3. NISP and UNID counts across contexts at Nemea.

Context		NISP						UNID									
								Medium-sized mammal					Large-sized mammal				
		cattle	sheep/ goat	pig	fowl	hare	fish	rib	long bone	cran.	vert.	other	rib	long bone	cran.	vert.	other
F19:44	Pit west of Heroön	14	11	4				148	328		1	8	10	164	5	17	1
G18 & G19	Heroön	10	103	11				12	5976	119	3	2	1	98	2		1
J18:45 & 47	"Sacrificial debris" in Bath	9	18	2					57	1	1	1	7	21			
K14:15	Debris near Temple of Zeus		1						268					13			
K18:2	Pyre in Xenon	24	26	7	2	1		5	11	4	2		13	51			
M12:24	Altar of Zeus		3					32	2392	6	7			330		4	
N17:73	Dining Room Pit	23	26	42			6	77	70	26	14	33	51	50	20	13	
P13:3	"Sacrificial debris" east of Temple		2	2										1			
P13:5	Pentathlete's Pit – no bones																

Heroön "sacrificial" zooarchaeological assemblages from Nemea

As concerns the Heroön, and sacrifice to Opheltes, sheep and goats appear principally, with cattle figuring periodically (Table 3 and Fig. 5). Pigs are represented as well, but in very low numbers overall. The few sheep/goat bones from the Heroön deposits that could be assigned specifically to taxon derive from sheep rather than goat. Such a preference is not surprising given that sheep were sacrificed to a number of heroes.¹⁷ Goats seem not to have been sacrificed to heroes in general; there are suggestions they were not a preferred victim. For example, we hear that Herakles, in founding the cult of Hera Aigophagos at Sparta, was forced to sacrifice a goat because no other kind of animal was available to him, and that the Spartans were the only Greeks to sacrifice goats to Hera (Paus. 3.15.9). Again, although goats were sacrificed to Asklepios at Balagrai in Cyrenaica, they were not allowed at Epidauros; indeed, goats were the only animals prohibited from the sacrifices to Asklepios at Tithoria (Paus. 2.26.9).

¹⁷ E.g., and most significantly, a black ram was sacrificed to Pelops at Olympia (Paus. 5.13.2). Rams are also specified for Amphiaraios at Oropos (Paus. 1.34.5), Trophonios at Lebadeia (Paus. 9.39.6), and Kalchas on Mt Drion in Italy (Strabo 6.3.9). Bulls, however, are also attested as, for example, in the cult of the hero Aristomenes at Messene (Paus. 4.32.3).

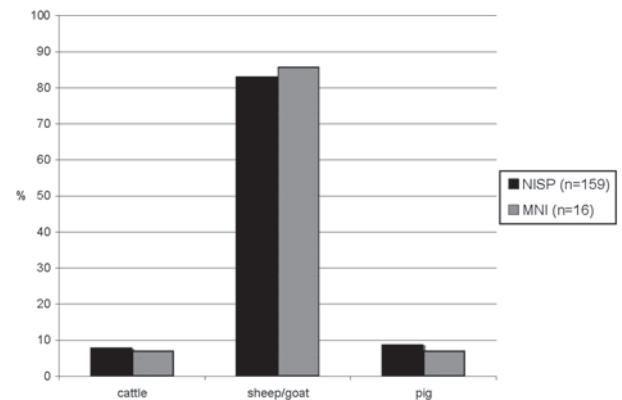


Fig. 5. Representation of taxa, by NISP and MNI counts, in combined Heroön and pit west of Heroön faunal assemblages from Nemea.

Hence, in all probability, sheep, perhaps rams, were the principal victims offered to Opheltes.

The analysis of animal parts from the Nemean Heroön assemblages shows a marked preference for the upper and middle portion of the hind limb (by MNI count: twelve tibia, seven pelvis, two femur), followed by the front limb equivalent of this (by MNI count: two humerus, four radius/ulna). Among the limb bone sections, those of the tibia predominate, representing nearly twice as many victims by MNI count than any other part of the skeleton. A smaller percentage of materials belongs to the skull. Moreover, there is a clear preference for the left side, especially among the ovi-

caprid limb fragments (*Fig. 6*). The distribution is far different for the other taxa noted (i.e., cattle and pigs), where cranial and dental elements predominate, with no marked side preference registering.

The vast collection of bone fragments from the Heroön that could not be identified to species could still be sorted by animal size and skeletal part. These numbers largely confirm the results just described. The overwhelming majority of pieces represent the long bones of medium-sized animals such as sheep/goats (*Table 3* and *Fig. 7*). Skull fragments of medium and large animals constitute roughly another 2% of the assemblage. The assemblage further includes a small percentage of long bone fragments from large animals, suggesting that cattle limbs were also sacrificed, in the Heroön, on occasion.

To what degree are these patterns real, or a factor of preservation, recovery, and taphonomic biases? After all, limb bone pieces typically do survive well. Taking taphonomic factors into account, however, still leaves some noticeable gaps and peculiarities in the faunal material.

First, as outlined above, the few remains of cattle and pig identified from the Heroön faunal deposits are nearly exclusively cranial and dental elements. Both adult and deciduous teeth, moreover, are noted from each taxon. True, teeth are highly resilient and tend to preserve well in archaeological assemblages. They are also more easily recognized, especially among fragmentary faunal assemblages. Consequently, a bias may exist favouring their identification and quantification in zooarchaeological assemblages. A few isolated metapodial bones of both taxa were noted, but no securely identified limb bone pieces of either animal comprised the NISP portion of the assemblages from the Heroön. But why are there so few postcranial cattle and pig bones, especially in light of the fact that a more complete suite of cranial and postcranial elements from the sheep/goat skeleton is noted in the Heroön assemblages? This oddity becomes even stranger given that experiments indicate a higher survival probability for denser, more durable skeletal limb bone elements, such as the distal tibia, proximal ulna, and astragalus among faunal assemblages.¹⁸ It is unlikely that pig and cattle postcranial bones simply

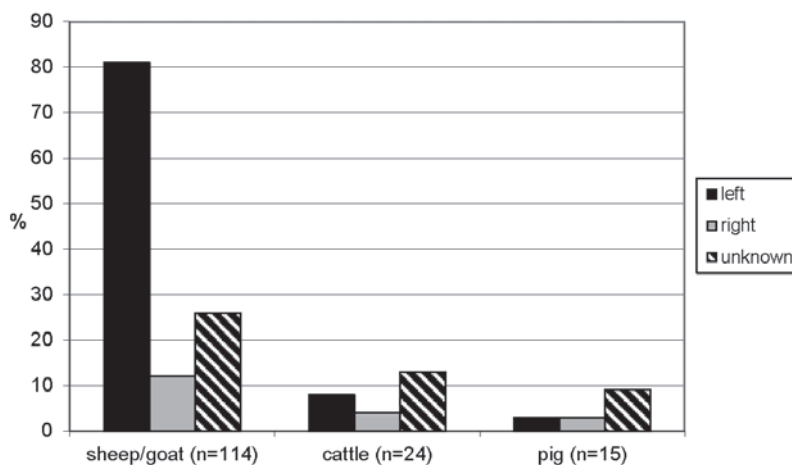


Fig. 6. Sheep/goat, cattle, and pig NISP frequencies by side, for Heroön contexts at Nemea.

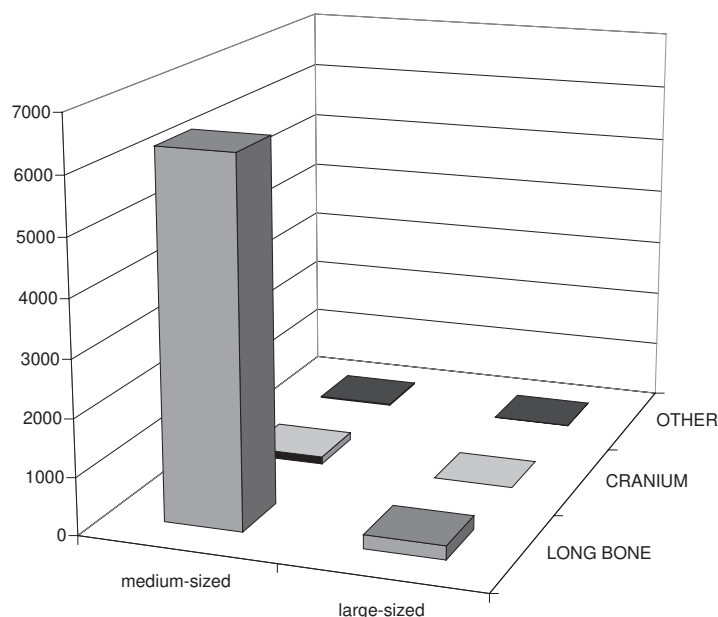


Fig. 7. Summary counts of number of specimens within various skeletal-part groups by animal size category for Heroön contexts at Nemea.

did not survive, as might occur if these derived more from young animals or if their limb bones were subjected to greater taphonomic forces separate from their cranial remains, and from the conditions that affected the sheep/goat skeletons. The assumption is that cattle and pig, at least their postcranial sections, were not commonly sacrificed and deposited in the Heroön. Sheep and goats predominated, and in their case, postcranial elements, especially the upper hind limb sec-

¹⁸ Lyman 1994.

tions as discussed above, predominate over cranial and dental elements.

Another critical observation from the Heroön deposits at Nemea is that across all taxa, but most notably for sheep, there is a near absence of lower leg bones, including the very dense metapodials and phalanges. This phenomenon also has parallels in the sacrificial remains from other sites in Greece. The probable explanation is that these parts were left attached to the hide when it was removed from the animal prior to sacrifice.

More striking is the virtual absence of rib and vertebrae fragments in the Heroön deposits. These parts do routinely show up in charred sacrificial debris from other sites, so we should not attribute their absence at Nemea to their complete obliteration in the sacrificial fire. It also seems highly improbable that these parts were burnt in sacrifice and then carefully sorted and removed to another location. The conclusion remaining is that only specific parts of the animals were typically burnt within the Heroön. The primary sacrifice appears to be part of the leg of a sheep, and usually the left hind leg at that.

There has been much debate about the skeletal parts offered to Greek deities.¹⁹ The findings from the Nemean Heroön rule out holocaust sacrifice, in which the entire animal is burnt, as the general mode. Gunnell Ekroth argues that up until Hellenistic times, *thysia* sacrifice, the ordinary form of sacrifice to gods in which parts of the animal victim (as opposed to the whole animal) were burnt at the altar, was more commonly practiced in hero cults than previously recognized.²⁰ Two forms of *thysia* sacrifice are generally attested in the ancient sources. The first, *meria* or *meroi*, has been argued to refer either to thigh bones (predominantly the femur, but possibly with the inclusion of part of the pelvis and/or tibia as well) or thigh sections, the distinction not always made clear.²¹ Debate still exists as to condition of this sacrifice, be this bare, dry bones wrapped in fat, or a defleshed section of the thigh.²²

The second type of *thysia* sacrifice is *osphys*, which more commonly corresponds to the tail of the animal. Generally this part consisted of a section of the sacrum and the caudal vertebrae, but it might also include parts of the lumbar vertebrae and pelvis as well, depending on the degree of separation of the tail section from the animal.²³

It is clear from the faunal evidence from the Nemean Heroön contexts that *thysia*, and more specifically *meria* or *meroi* sacrifice, was more commonly practiced in the cult of Opheltes. The faunal assemblage from the Heroön is largely skewed towards long bone elements, even when taphonomic, preservation, and identification biases are weighed to account for a higher probability of retrieving and counting long bone pieces in the assemblage. Cranial, rib, and vertebral elements are grossly under-represented in the Heroön assemblage (Fig. 7), a finding which rules out any significant contribution of either the *osphys* variety of *thysia* sacrifice or any holocaustic sacrifice. Rather, the greater frequency of bones from the hind leg, especially of sheep, for the Nemean Heroön assemblage (Fig. 6), suggests that *meria* or *meroi* (as opposed to *osphys*) was the principal form of *thysia* sacrifice to Opheltes at the site. The leg bone fragments from sheep in the Nemean Heroön assemblage, moreover, resemble zooarchaeological findings from other sacrificial deposits interpreted as evidence for *thysia* (and more specifically as *meria* or *meroi*), for instance the cult of Poseidon at Isthmia, the cult of Athena at Tegea, and the cults of Apollo at Eretria, Kourion, and Halieis.²⁴ These are all gods, however. How does the Nemean Heroön material relate to worship in other hero cults of the ancient Greek world?

The Nemean Heroön zooarchaeological assemblage parallels those associated with the cults of other heroes, such as Herakles at the site of Thasos, or Anios at the site of Delos, in the preference of sheep/goat, but differs from the Herakles cult at Thasos in its reliance on sacrificing only parts of the animal to the hero, in this case mainly the left hind leg.²⁵ Herakles is associated with holocausts, or the ritual burning of the whole animal,²⁶ but this appears to be only one method within a range of sacrificial practices involving animals for him. Although greater variety of elements from the entire sheep/goat skeleton is found in the burnt assemblage of bones from Thasos (as compared to Nemea), the presence of butchery marks suggests that the meat was removed from these parts and consumed. As such, there is no direct zooarchaeological indication, in this regard, for true holocaust sacrifice to Herakles at Thasos, that is, no direct evidence that entire, unbutchered animals were burnt on the altar. Holocausts may have been the norm in the cult of Melikertes-Palaimon, as

¹⁹ Key references include: Burkert 1985; Durand 1986; Jameson 1988; Detienne & Vernant 1989; van Straten 1995; Ekroth 1999; 2002; 2007; 2009; among others.

²⁰ Ekroth 1999; 2002; 2009, 126.

²¹ Ekroth 2009, 127.

²² Ekroth 2009, 128 provides further references.

²³ Ekroth 2009, 129.

²⁴ For zooarchaeological assemblages linked to the cult of Poseidon at Isthmia, see Gebhard & Reese 2005; for Athena's worship at Tegea, see Vila 2000; for Eretria, a cult linked to Apollo/Artemis, see Studer & Chenal-Velarde 2003; for Apollo's cult at Kourion, see Davis 1996; for sacrificial bone remains at Halieis, see Jameson 1988.

²⁵ For the Herakles faunal assemblage from Thasos, see des Courtils *et al.* 1996 and Bergquist 1998; for the Anios assemblage from Delos, see Prost 1997.

²⁶ van Straten 1995, 158.

represented in a ritual faunal assemblage linked to this hero from the site of Isthmia; however, in this case cattle appear to be the victim of choice.²⁷ Holocaust does not seem to be part of the Opheltes cult. To what degree this relates to the economic pressures of apparently wasting a full carcass is unknown. The hero Melikertes-Palaimon shares similarities with Opheltes in that the death of each as a baby was the cause of the foundation of athletic games. Each event even used the same type of wreaths at some times and presumably ran similar sporting events.²⁸ With many similarities, it may have been felt necessary to keep sacrificial rituals different between the two cults, so that each could be distinguished readily among worshippers. Consequently, cattle and holocausts seem to be the ritual of choice at Isthmia, while sheep/goat left hind legs formed the hero's feast portion at Nemea.

The preference for the left side noted among the sheep remains from the Nemean Heroön is intriguing. Although taphonomic factors certainly contributed to forming faunal assemblages at Nemea, it is unlikely that this pattern of left side predominance and skeletal part bias is solely related to preservational forces, or to recovery issues, for that matter. The preference for one side of the animal over the other has been observed in the cult of Apollo. Young sheep and goats comprise 97% of the assemblage in his cult at Kourion (Cyprus), with a strong preference for the right side elements, chiefly the tibiae, astragali, and calcanei in this sacrificial assemblage.²⁹ A similar predominance of right hind leg elements (again chiefly tibiae) from younger ovicaprids is noted in the assemblage from Halieis (Greece), also linked with Apollo.³⁰ The assemblages here both are ritually burnt, confirming their association with cult sacrifice. In these cases, the right side appears specifically chosen, but it is a god, Apollo, rather than a hero who is being honoured. Recall that Opheltes' other name was Archemoros, meaning “beginning of doom.” The choice of left side for him, therefore, may have underworld ties, distinguishing this chthonic hero cult from that of heavenly deities like Apollo. There are no other Greek parallels for left side sacrifices involving animals, although a wealth of ancient Greek philosophical comments on the di-

vine association of the right side, and mortal and underworld ties for the left side.³¹

Ideally, to test this hypothesis of side preference, clear and distinct assemblages of animal sacrifices to heavenly and underworld deities are required. This is challenging to observe in light of complications such as mixing of sacrificial remains, re-use of altars for various types of sacrifices, and the poor or unknown connections of sacrificial faunal debris with specific deities or entities. Compounding these troubles is the fact that side information has not always been recorded in faunal reports, although there is perhaps an expectation that it would have been reported if an obvious side preference existed.

A second bias in reconstructing patterns of side choice from zooarchaeological data is that the available pool of sacrifices to known deities currently contains no underworld representatives—all are Olympian gods; thus, reliable data only exist to test this “heavenly” half of the equation.³² The Nemea left side case appears unique, at least in the Greek context, but then again the sacrifice here is not to an ancient Greek deity, *per se*, but rather a Greek hero, who, in part, has underworld affiliations.

Connecting the preference for right-sided leg elements with sacrifices to an Olympian deity seems logical. Right side normally equals positive qualities: heavenly, good, sacred, and so forth. Why this practice appears exclusively (but not always) with Apollo, and no other Olympian deity is unclear, but open to speculation. The correlation of Apollo with the sun may play some role, as this was the ultimate source of light up in the sky, but it is unknown if such a connection (be it actualized or not) underlined the need for special animal sacrifice practices to him. Perhaps, in this capacity, Apollo stands for doubly righteous qualities—both male and sun. This could contrast with his female twin sister, Artemis, who

²⁷ As noted by Gebhard & Reese 2005, of the more than 28,000 bones identified from this ritual deposit attributed as the remains of sacrifices to the hero Melikertes-Palaimon, at Isthmia (1st–3rd centuries AD levels), 98% derive from cattle, with all skeletal parts represented, suggestive of holocaust offerings.

²⁸ Gebhard & Dickie 1999, 163.

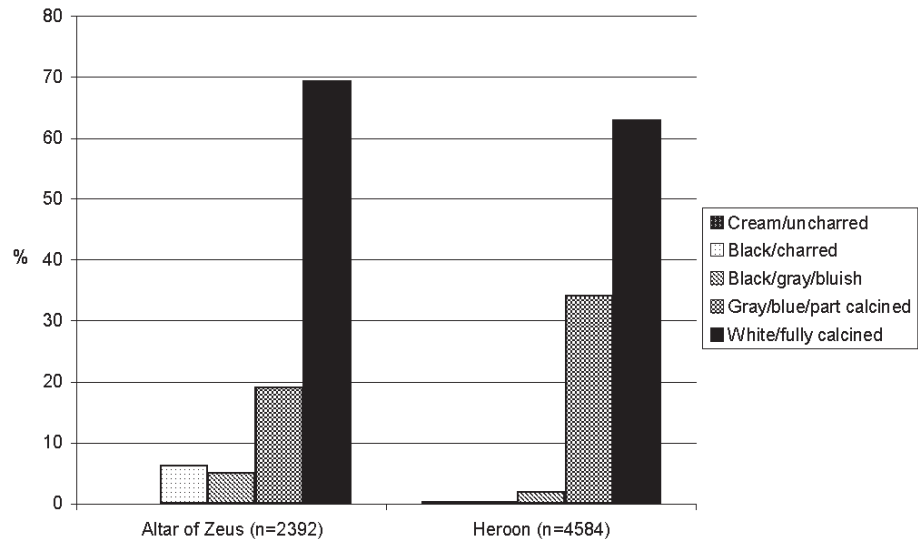
²⁹ Davis 1996.

³⁰ Jameson 1988.

³¹ Lloyd 1962. See MacKinnon 2010, for a larger discussion of the philosophy of side choice in animal sacrifice during antiquity, with a broader survey of zooarchaeological examples where side choice may be apparent as drawn from cultures outside the ancient Greek world, including Bronze and Iron Age Europe and the Near East, the Roman Empire, and Mayan civilization in Mesoamerica.

³² Leguilloux 1999 provides a good summary of zooarchaeological findings across a variety of ritual sites in the ancient Greek world. A more recent listing of major findings and trends among zooarchaeological assemblages from ritual contexts in the ancient Greek world, including the Aegean and Hellenistic Italy, can be found in MacKinnon 2010, and MacKinnon, forthcoming. The current list of Greek deities, for which ties to zooarchaeological deposits at particular sites are hypothesized include: Zeus (site of Paestum), Hera (site of Samos), Poseidon (sites of Tenos and Isthmia), Athena (site of Tegea), Apollo (sites of Kourion and Halieis), Artemis (sites of Ephesos, Olympia, and Kalapodi), Apollo/Artemis (site of Eretria), Aphrodite (sites of Athenian Agora, Miletos, Tamassos, Amathonte, Gravisca, Paestum), Demeter/Persephone (Mytilene, Corinth, Knossos, Syracuse, Gravisca, Cyrene).

Fig. 8. Frequency of bones across various stages of burning for Altar of Zeus and Heroön contexts at Nemea. Medium-sized mammal portion of sample.



is associated with the moon (although she too is a “heavenly” Olympian deity and not exclusively an underworld goddess). Consequently, Apollo’s cult may have sought to distinguish his sacrifices in a different manner than most other ancient Greek deities. There is certainly room for great philosophical debate as regards this topic, but answers are elusive and not readily interpretable on the basis of currently available zooarchaeological evidence.

Priests and cult worshippers often consumed sacrificial meat during Greek rituals. Deciding who gets what was complicated. According to some scholars of Greek law, “should right legs be distinguished from left legs, they usually go to the priest; left legs may go to divinities (though they may have to settle for the bones alone).”³³ I am not convinced that this is the case—at least zooarchaeologically this does seem correct. If the right side was the priestly side and the left a section for the gods, then it is possible that the choice of right side elements to Apollo denotes not the godly portion, but the priest portion, stripped of meat and subsequently offered to this divinity.

Altar of Zeus “sacrificial” zooarchaeological assemblages from Nemea

How does the Zeus sacrificial material from Nemea compare with that from the Heroön of Opheltes? This is difficult to answer, considering the paltry NISP counts from the Altar of

Zeus contexts (Table 3). Still, some observations arise. First, although no definite cattle bones were noted, the presence of burnt long bone fragments from large-sized mammals in the Zeus debris suggests that some large mammals, presumably cattle, were also sacrificed, even if sheep and goats still predominate in his cult at Nemea.³⁴ The term “Nemea” derives from *nemeo*, which means “I graze”. While flocks of sheep may initially come to mind here, cattle also graze and could equally apply. The lack of identified pig bones in the Zeus contexts may further support the “grazing” nature of Nemean Zeus. Assuming that none of the medium-sized mammalian long bone fragments from the Altar of Zeus deposits are from pig, then it appears that Nemean Zeus received exclusively ovicaprids and cattle. Although the ancient texts record cases where pigs were sacrificed to Zeus, the vast majority concerns sheep and cattle.³⁵ Zooarchaeological data add support to an argument that these two species were key sacrificial victims for Nemean Zeus. The lack of identified pig bones from the Altar of Zeus deposits contrasts with the Heroön contexts, where pigs are noted, but, it should be stressed, only in a rela-

³³ Lupu 2005, 222, n. 6.

³⁴ Leguilloux 1999 records 90% cattle (by NISP counts) from ritual contexts at the site of Paestum, dating to the 3rd century BC. The cattle noted were chiefly adults; all parts of the skeleton were represented. Pigs and ovicaprids each accounted for 3% of the NISP figures at this site.

³⁵ Kadletz 1976, 307–309, based on ancient written sources, lists the following number of examples in his list of animal references for Zeus: *boves*: 21; goats: three; sheep: 24; pigs: eight. While technically the terms *boves* can encompass both cattle and ovicaprids, in the majority of instances quoted by Kadletz it implies cattle. In any case, pigs only represent about 15% of the cases of sacrifice to Zeus, as extracted from the ancient texts.

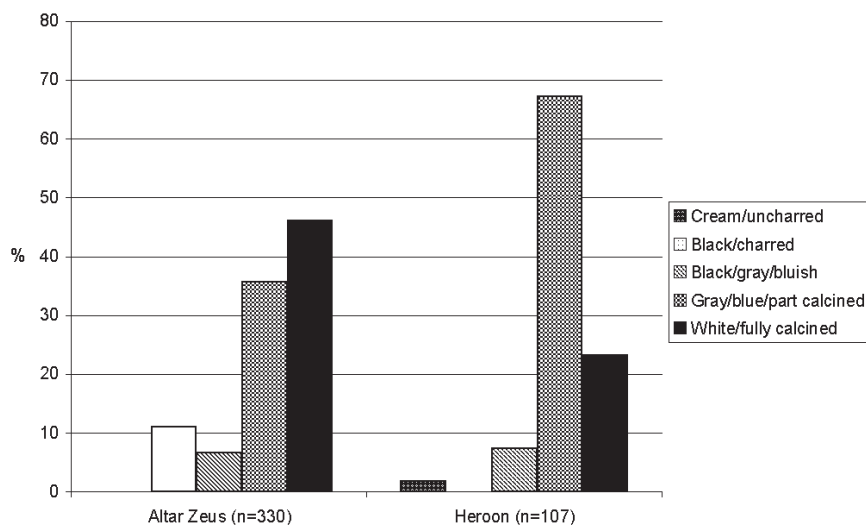


Fig. 9. Frequency of bones across various stages of burning for Altar of Zeus and Heroön contexts at Nemea. Large-sized mammal portion of sample.

tively minor role it would seem, given their low frequency values, especially when compared with sheep and goat values.

Second, it appears that fires associated with Zeus burned longer and hotter than those associated with Opheltes. As shown in *Figures 8 and 9*, higher frequencies of calcined bone are recorded for long bone pieces within the Altar of Zeus than among the Heroön deposits. One may surmise that this was deliberate—perhaps related to more attention for Zeus in stoking hotter, more efficient fires, or in ensuring that sacrificed materials were sufficiently burned in the process, with fewer remnant pieces filtering out to the edges of the fire where they may not have been exposed to the full force of the flames and heat.

Third, available zooarchaeological materials from the Temple and Altar of Zeus contexts at Nemea were insufficient to determine if the “missing” right side elements from the Opheltes area were offered to Zeus instead. Overall, there appears to be no side bias in the Zeus assemblage, but it should be appreciated that the NISP assemblage here is very small (less than 10).

Two clues suggest relatively more younger animals were sacrificed to Zeus than to Opheltes. First, a calcined mandible fragment from a neonatal lamb or kid was identified within the Zeus material. This suggests a holocaust, or at least the burning of a head or jaw of a young lamb or kid at a minimum. By contrast, far fewer lamb/kid bones comprise the Heroön deposits, which are dominated by the limb bones of older, mature sheep/goats, presumably from a *meria* or *meroi* sacrifice, with less evidence for holocaustic sacrifices in the Heroön.

Second, the lack of diagnostic fragments from the ends of long bones may also be a sign that fewer adult animals were sacrificed to Zeus than to Opheltes (in whose Heroön more of these ends were preserved). It is possible that the greater frequency of sub-adult and juvenile bones from the Altar of Zeus deposits combusted more easily, and consequently left little trace behind, as opposed to the Heroön material, where a higher incidence of adult animals was sacrificed.

Finally, the Altar of Zeus context is the only one from the entire site where ovicaprid caudal vertebrae were identified. Vertebral fragments were noted from other contexts, but none of these could be distinguished as definitely caudal. This is important since it implies the sacrifice of some tails (i.e., *osphys*), or at least some holocaustic sacrifices (whole animals, that is) to Zeus. Either scenario, nonetheless, correlates with sacrifice to Zeus. The offering of tail sections (*osphys*) connects with literary and iconographic data marking this as a principal anatomical piece offered to some Greek deities during burnt sacrifices.³⁶ Vertebrae, let alone those from the tail, were all but absent from the Heroön assemblages, so it appears the *osphys* was not offered to Opheltes (who instead seems to have received *meria* or *meroi*, as argued above). A holocaust sacrifice, and recall that the neonatal lamb men-

³⁶ van Straten 1995 provides illustrations of “curly bits” (which are presumably tail sections that have curled in the process of heating), as depicted on altars on a number of Greek vase paintings. Ekroth 2009, 142–144 provides further discussion about the mechanics of the tail curling, with evidence from practical experiments involving the burning of sheep and pigs’ tails.

tioned earlier was presumably one of these, also fits with Zeus, as such offerings may be argued as representing the ultimate gift to the gods. Still, while some *osphys* and *holokausta* sacrifices are linked here with Nemean Zeus, the high frequency of long bone fragments noted in the faunal assemblage from his Temple and Altar suggest that he also received a significant number of *meria* or *meroi* sacrifices. In this manner, it may be argued that some of the sacrifices made to Zeus resemble those shown for Opheltes, at least in the ritual offering and burning of thigh bones or thigh sections. Insufficient zooarchaeological data exist, however, to conclude if these were right or left side thigh sections, if indeed a side was specifically chosen in sacrifice to Zeus. There are no indications from other zooarchaeological cases across the ancient world that specific side choice is represented for Zeus.

The inclusion of *osphys* as one of the sacrificial sections offered to Zeus, and displayed in the zooarchaeological record from his Altar at Nemea, corresponds with several other examples of ritually burnt tail sections. Two such cases involve sacrifice to Aphrodite. Vertebrae, femora and patellae (nearly exclusively of sheep and goat) comprise a hugely disproportionate component of materials from the 5th to 4th centuries BC sacrificial deposit to Aphrodite Ourania in the Athenian Agora.³⁷ Similar deposits, in this case, primarily charred bits of sacra, caudal vertebrae and patellae, again overwhelmingly from ovicaprids, characterize the faunal offerings to Aphrodite at Miletos,³⁸ as well as the sacrificial deposits to an, as yet, unknown recipient in the Temple area from the site of Asea, Agios Elias.³⁹ Both the Miletos and Asea examples date roughly to the Archaic period. While the cases above provide fairly good direct evidence for *osphys*, the lack of femora, patellae, and caudal vertebrae in the zooarchaeological assemblages collected from Late Archaic ritual deposits associated with Artemis at the site of Olympia, led investigators to suggest that these elements had been removed, and likely burnt elsewhere.⁴⁰

"Secular" zooarchaeological assemblages from Nemea

What about the other assemblages? How do they connect to the Zeus and Opheltes examples? First, as indicated above (*Fig. 2*) burning was infrequent among these remaining contexts. This is especially noteworthy in the Bath assemblage

(J18:45 & 47), a deposit originally labeled as "sacrificial" on the basis of location and some ritual-related artifacts and vessels, but without any charred bone sacrificial debris it would seem. Although unburnt bone need not imply lack of sacrificial bone, zooarchaeologically, the Bath assemblage does not appear "sacrificial". It contains a mix of cattle, ovicaprid, and pig bones, with no noticeable pattern of any age group or skeletal part represented. Rather, this Bath assemblage is rather typical of general faunal waste that might litter an area haphazardly. Conversely, while the Xenon assemblage (K18:2) does contain a sizeable fraction of charred bones, these are associated with a hearth, so burning is expected. This is not ritual, but likely cooking and roasting. In support, the examples here are not uniformly burnt, but charred more extensively at their bone-exposed articular ends, as opposed to their meat-covered diaphyseal or "middle" sections. Moreover, the Xenon assemblage is the only one across the site to record domestic fowl, an animal not normally sacrificed as a burnt offering in Greek antiquity, but certainly consumed as part of "regular" diets.

Second, while sheep and goats predominate across all assemblages at Nemea, regardless of their designation as "sacred" or "secular", this is expected given the importance of ovicaprids in the overall economy of Greece. The other taxa, however, provide clues. For example, the presence of burnt hare bones from the Xenon deposit (K18:2) suggests it is not ritual since wild animals were not normally sacrificed.⁴¹ Presumably unblemished and healthy victims were typically demanded in sacrifice—criteria that could not generally be secured with wild animals, given that most had to be hunted, and likely sustained injuries from being caught.⁴²

The Dining Room assemblage (N17:73) is also special taxonomically in registering a relatively high proportion of juvenile pig remains (although the margin is not as wide when MNI values are compared), and in the presence of fish bones. As both were somewhat expensive food types in antiquity, their presence here suggests an elite diet. Perhaps these were meal remains from games officials or dignitaries.

A third distinguishing feature among these "secular" assemblages, is that, unlike the Heroön, no side or element preference exists; rather a general mix of left and right parts from entire skeletons is noted. Presumably more whole animals were butchered and consumed in these contexts. The distinction is further noted in *Figure 10*, which records skel-

³⁷ Reese 1989.

³⁸ Peters & von den Driesch 1992; Peters 1993.

³⁹ Vila 2000.

⁴⁰ Bencke 2006.

⁴¹ The stag to Artemis is an exception here; see Ekroth 2007, 263–264 for further examples.

⁴² For further comments on the desired physical and temperamental qualities of sacrificial animals see Detienne & Vernant 1989. Naiden 2007 offers serious challenge, however, to notions that sacrificial victims were "willing victims" to the altar.

Fig. 10. Frequencies of various skeletal-part categories for medium-sized mammals across contexts at Nemea.

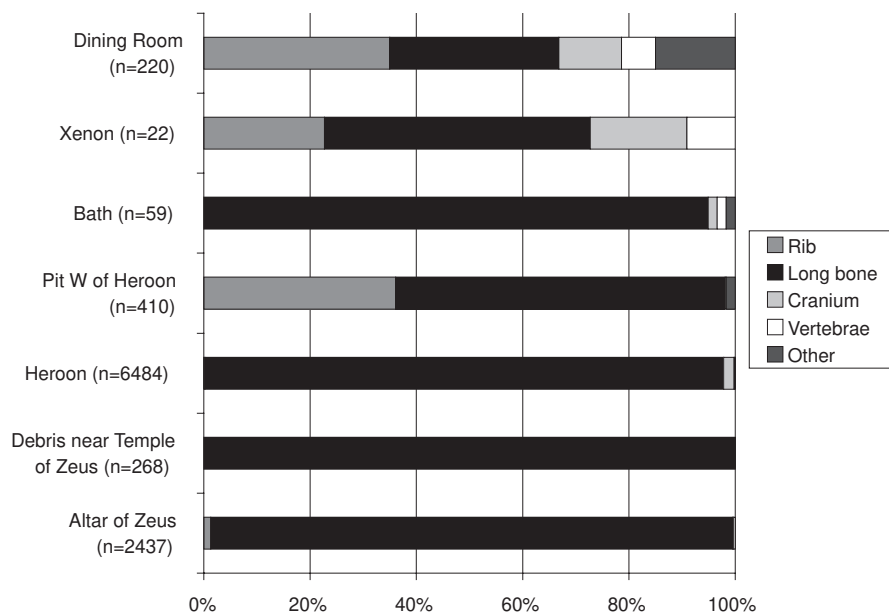
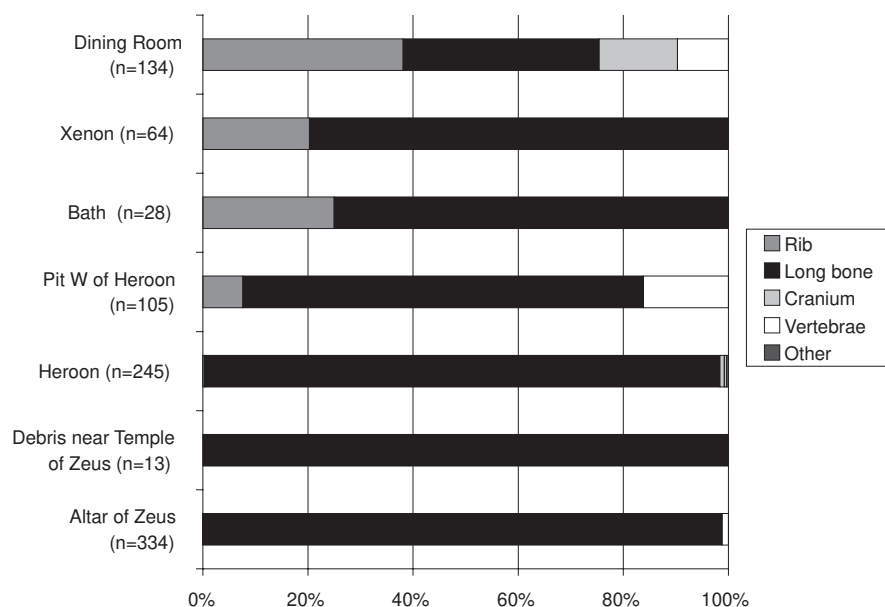


Fig. 11. Frequencies of various skeletal-part categories for large-sized mammals across contexts at Nemea.



et al part frequencies among different categories for medium-sized mammals. The Dining Room and Xenon assemblages contain significant quantities of rib, cranial, and vertebral fragments. A similar pattern is shown among figures for large-sized mammals (Fig. 11), and contrasts markedly with values for “sacrificial” contexts. It is possible that those “missing” ribs and vertebrae from the “sacrificial” assemblages are contained

in these “secular” deposits. While the proportions displayed, especially those for vertebrae, do not appear significant enough to argue strongly this connection, the possibility still exists. Sacrificial victims at Nemea could have been butchered and distributed as part of a ritual feast, with only select parts (notably the thigh/limb bones, i.e., *meria* or *meroi* sacrifice) offered for burning, either to Zeus or Opheltes. If such were

the case, however, then a greater reassessment of the apparent secular/sacred dichotomy is necessary.⁴³ Some see the whole context of meat consumption among the ancient Greeks as ritualized in some fashion. It has been argued that meat was rare in their diet, and not normally consumed outside a sacrificial context. This opinion seems a bit drastic, however, and presents complications for explaining those anomalies such as the fish and hare bones from the Dining Room and Xenon deposits. While probably not sacrificial, remains here could be associated with ritual feasting, itself a concept that spans the divide between sacred and secular.

Conclusions

In closing, a return to the title of this article, and an explanation therein, is appropriate. "Side matters" in part is a pun on an English expression "size matters", which argues that "bigger is better". In the case of Nemea, "side" does seem to matter: literally, if one attributes importance to left versus right sides of the body; but also figuratively if one considers opposing sides or concepts, such as divine versus mortal or heroic, heavenly versus chthonian, and sacred versus secular. I admit I have come full circle in this attempt to decipher some of these concepts from faunal assemblages from Nemea, and do not have all the answers. The burnt materials associated with the Heroön and the Altar of Zeus generally show a preference for skeletal part sacrifices (largely, *meria* or *meroi* sacrifices, i.e., thigh bone or thigh section sacrifices) for both Opheltes and Zeus. Ritual dining is connected to hero worship,⁴⁴ so it is not surprising that only parts of sacrificial animals appear to have been burnt in offerings to Opheltes at Nemea. In fact, in terms of alimentary sacrifice many heroes did not differ markedly from gods in terms of what animals and what portions of them were offered.⁴⁵ Nevertheless, a few differences distinguish the Heroön and Zeus ritual faunal assemblages from Nemea. Relatively more cattle limbs, holocaust-style young lambs, and sheep tails (*osphys*) were sacrificed at the Altar of Zeus, where the combustion of material appears more pronounced. The preference for left-sided elements in the Heroön is unique among Greek sacrificial assemblages, and presumably may relate to the association of Opheltes, in his guise as Archemoros, as an underworld figure—heroic,

but not godly. Gods may have had their specific requests when it came to sacrificial animals, and this in turn may have helped worshippers easily to distinguish cults. Hero cults likely did not have such universal standards, and thus worshippers may have aimed to make these different from the rest, but still within practical limits. Sheep (and goats) were plentiful and relatively inexpensive in Greece, and largely predominated among references in ancient sacrificial calendars;⁴⁶ thus, choosing them as the necessary victim for Opheltes may not have been an option for the worshippers. Picking the left side of the animal to burn as the hero's portion was under the worshippers' control, and, based on available zooarchaeological evidence, sets them apart from other sacrificial practices.

The remaining "secular" faunal deposits from Nemea, as collected from contexts in the Bath, Xenon, and Dining Room, in particular, may show some connection with the sacrificial debris in that skeletal parts "missing" from the sacrificial assemblages (such as ribs and vertebrae) are variously represented in these other deposits. However, the situation is complicated in that it seems unlikely that all the animals consumed at Nemea initiated as ritual offerings, even if not all were burnt in sacrifice, but consumed in feasting rituals. The presence of hare and fish suggests "secular" as opposed to "sacred" meat eating, on some occasions, but ushers in new questions about just where to draw the line between the two seemingly opposing concepts. Gunnell Ekroth sets an important trend along this path in suggesting: "We should rather be looking for the degrees of sacredness imbued in different kinds of meat and situations where meat was handled in order to distinguish a hierarchy of meat that depended on the species, where the animals were killed and how, but also where the meat was eaten."⁴⁷ This analysis of "sacred" and "secular" faunal assemblages from Nemea provides a step forward along this path, but until a larger pool of zooarchaeological data can be synthesized, especially as regards materials from "secular" contexts across a wider array of Greek sites, specific conclusions will remain murky. Zooarchaeology has a critical role to play adding clarity to this picture, through the examination of new finds emerging through continued excavation, as well as more detailed, critical, and interdisciplinary assessments, and re-assessments, of previously excavated faunal materials.

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⁴³ See Ekroth 2007 for preliminary work on the distinction between "sacred" and "secular" meat offerings in ancient Greece.

⁴⁴ Ekroth 1999, 146–156.

⁴⁵ Ekroth 2002, 303–310 and 341.

⁴⁶ van Straten 2005, 172–186.

⁴⁷ Ekroth 2007, 269.

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Dealing with the unexpected

Unusual animals in an Early Roman cistern fill in the Sanctuary of Poseidon at Kalaureia, Poros

Abstract*

The excavation of the Early Roman fill of an Archaic cistern in the Sanctuary of Poseidon at Kalaureia on Poros produced the remains of a range of animals that are not usually found together in closed contexts. Consideration of taphonomic parameters and of the specific features of the assemblage indicates that it represents the remains of ritual activities. This paper aims to explore the possibilities of using the material remains (in this case the bones and shells) to detect ritual activities of a type not referred to in the written sources. Such an exploration brings forward issues of definition and interpretation of what can be seen as sacred or profane in the context of a cult place such as a sanctuary.

Introduction

This paper discusses an assemblage of animal remains recovered from the Sanctuary of Poseidon at Kalaureia, on the island of Poros. The assemblage, which dates to the Early Roman period, is unusual in many respects and poses various challenges. After detailed recording and analysis of the zooarchaeological material, an attempt is made to contextualize these remains both within the specific sanctuary but also within the belief system of ancient Greece as we know it through the literary sources. This process does not lead to any specific interpretation but points instead to possible alternative ways of thinking about this type of evidence and about material remains from sanctuaries in general. At the heart of this paper lies the much-discussed relationship between the written sources and the material record in the investigation

of past societies.¹ Considerations of this issue are crucial in the study of ancient Greek religion and particularly challenging when applied in a zooarchaeological study.² Within this framework the paper deals with the following questions: is what the ancient texts tell us about cultic practices in a Greek sanctuary all there is to know about the issue? Is archaeology there just to illustrate the written documentation? How do we interpret finds that do not conform with what is known from the written sources? How can we go about redefining a dialogue between the material and written evidence?

The Sanctuary of Poseidon at Kalaureia is situated on the island of Poros, just off the Peloponnesian coast, east of the Argolid. The sanctuary has been known as the seat of an amphictyony of nine city-states probably from as early as the Archaic period and also as an asylum.³ Demosthenes, the Athenian orator, sought refuge in this sanctuary when he was pursued by the Macedonians in 322 BC. According to the literary tradition he met his death by his own hand just in front of the Temple of Poseidon (Strabo 8.6.14). The site was previously briefly excavated on only one occasion, in 1894,⁴ and its architecture was studied again in the 1930s.⁵ Despite these investigations, the sanctuary, and especially its development and functions, were only sketchily understood.

Archaeological investigation was resumed in 1997. After a certain period of background research and site clearance, a systematic exploration of the site was begun in 2003. It aimed to investigate the physical environment and daily life in a large-scale Greek sanctuary using a wide range of mod-

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¹ Leone & Porter 1988; Small 1995; 1999; Andr n 1998; Moreland 2001; Sauer 2004; Snodgrass 2002; Foxhall 2004.

² See Mylona 2008, esp. 24–30; MacKinnon 2007.

³ On the amphictyony, see Kelly 1966; Mylonopoulos 2006, 129–136. On the function of the sanctuary as an asylum, see Sinn 2003. More generally on the institution of *asylia* (asylum), see Sinn 1993.

⁴ Wide & Kjellberg 1895; Wells, Penttinen & Billot 2003, 33–35.

⁵ Welter 1941; Wells, Penttinen & Billot 2003, 33–35.



Fig. 1. Site plan of Area D and section of the cistern (Feature 03) in the Sanctuary of Poseidon at Kalaureia (by E. Savini).

ern field techniques and methodologies.⁶ The six-year programme, finished by the end of 2012, expanded the above aims with a particular emphasis on issues of religion, cult and belief.⁷ Archaeological research at the sanctuary focused on the systematic and detailed documentation of the excavation process and of the finds, with emphasis on contextualization.⁸ Systematic soil sampling and water flotation have been considered as integral parts of the fieldwork, followed by the analysis of various categories of bio-archaeological remains along with the analysis of all other types of artefacts. These analyses focus on the remains of mammals, microfauna, birds, molluscs, charcoal, carbonized seeds, lipids as well as organic

and inorganic substances.⁹ In accordance with the research objectives of the investigation at the sanctuary, all these categories of bio-archaeological remains are examined with the aim of exploring all aspects that relate to plants and animals in the sanctuary. This is done not only from an environmental and economic point of view, but also posing broader issues current in studies of ancient religion. Notions such as the “secular” and the “sacred” as well as issues of integration of texts and archaeology set up the framework of the bio-archaeological studies concerning the Sanctuary of Poseidon at Kalaureia.

Archaeological context and stratigraphy

The zooarchaeological assemblage under study was recovered from a cistern (Feature 03) just north of the so-called “Building D” (Fig. 1). The cistern was constructed in the Archaic period, and was probably part of a system of interconnected

⁶ The three years research programme (2003–2005) under the directorship of Berit Wells was entitled *Physical environment and daily life in the Sanctuary of Poseidon at Kalaureia (Poros)* and funded by Riksbankens Jubileumsfond. For the recent investigations, see Wells, Penttinen & Bilot 2003; Wells *et al.* 2005; Wells, Penttinen & Hjohlman 2007. For a description of some of the methodologies applied see Wells *et al.* 2005, 129–135. See also relevant entries on www.kalaureia.org.

⁷ The six-year programme (2007–2012) was also funded by Riksbankens Jubileumsfond. It is entitled *The sea, the city and the god* and directed by Arto Penttinen. For the first results of this programme, see Penttinen & Wells 2009.

⁸ Mylona *et al.* forthcoming.

⁹ These remains are studied by a group of specialists that includes Y. Basiakos (technological analysis of organic and inorganic remains), G. Iliopoulos (microfauna), S. Isaksson (pottery chemical analysis), P. Lymberakis (microfauna), D. Mylona (mammal and fish remains), M. Ntinou (wood charcoal), A. Sarpaki (archaeobotany), D. Serjeantson (bird remains), G. Syridis (molluscs) and T. Theodoropoulou (marine molluscs).

cisterns. It fell out of use and in the Early Roman period (some time after 50 BC) became filled up with soil, stones and an unusual collection of items.¹⁰ At the time the sanctuary was still in use (Paus. 2.33.2).¹¹ The cistern, which is over 3 metres deep, was systematically sampled and a large portion of its soil underwent water flotation. Over 13,000 animal remains have been collected, representing donkey, cattle, pigs, sheep, goats, dogs, fish, birds, bird eggs, snakes, frogs, small mammals and large numbers of purple shells.¹² Among the animal bones, the remains of dogs and snakes are the most numerous. In addition to the animal remains a large number of glass vessels, all broken, were retrieved. Pottery sherds were very scarce and eroded. Charcoal and seeds were scarce as well. The animal remains had an uneven vertical distribution through the cistern's fill.¹³

The animal remains: description

The animal remains retrieved from the cistern are presented below in two broad categories: the first is made up of the usual sacrificial animals, those that are expected to be found in a sanctuary as sacrificial victims and edible bodies in the subsequent sacrificial feast, namely cattle, pigs, sheep and to a lesser extent goats;¹⁴ in the second category fall all those animals which are “unexpected”, those that according to the same sources do not form part of the common rituals in a Greek sanctuary, as these are known in the relevant literature.

¹⁰ For the excavation report on the cistern, see Wells, Penttinen & Hjohlman 2007, 36, 41 and 89–94. The analysis of the glass remains, one of the few datable categories of finds in the cistern, suggests a date that ranges from the 1st to the 3rd centuries AD. The Early Roman date is favoured here on the grounds provided by the few datable pottery sherds.

¹¹ Recent excavations in Area I uncovered a complex building which was in use when the cistern was filled up.

¹² This assemblage will be published in detail by the various specialists in Mylona & Penttinen forthcoming. More specifically the following descriptions are based on Lymberakis & Iliopoulos forthcoming; Mylona forthcoming a; Serjeantson forthcoming; Syrides forthcoming. For details on the distribution of remains within the cistern, see Mylona forthcoming a.

¹³ For a detailed description of this distribution, see the section on taphonomy below.

¹⁴ For the typical sacrificial animals, see Burkert 1985, 55–59; Rosivach 1994. For a systematic treatment of the iconography of animal sacrifice, see van Straten 1995. For the consumption of the sacrificial animals see Durant 1989; Detienne 1989; Ekroth 2007; 2008.

The sacrificial animals: medium and large mammals (equids and dogs excluded)

Cattle, pig and ovicaprid remains are relatively few in comparison to dog and microfaunal remains (*Table 1*). There are at least two individuals of pig deposited in the cistern and they represent both a mature and a very young animal. All parts of the pigs' carcasses appear to be present although no articulated parts have been located. The cattle and ovicaprids are all adults.¹⁵ Several anatomical parts are present, but none is in articulation with others. The cistern contained the remains of at least one individual of cattle and four ovicaprids. No sexing information is available. Burning is extremely scarce and where it occurs it indicates cooking on a spit. The overwhelming predominance of unburned bones indicates that most meat was boiled or stewed. Cut marks are scarce as well. There is a differentiation between the type of cut marks observed for different types of animals. Cattle bones are more heavily chopped, while ovicaprid bones bear only disarticulation knife marks. Chopping marks on non-identifiable bones are found on long bone splinters, obviously associated with breaking the bone into small parts.

Table 1. Animal remains from the cistern (Feature 03).

<i>Taxa</i>	<i>Number of remains</i>
Equid	12
Cattle	11
Pig	24
Sheep and goats	79
Sheep	13
Goats	4
Dogs	353
New born dogs	152
Large size mammals	9
Medium size mammals	16
Small size mammals	95
Fish	51
Birds	55
Snakes	2720
Frogs	104
Sea shells	2500
Non-identifiable bones	13609
Total	19807

¹⁵ Not enough dental and fusion data are available for any trends to appear.

The cattle, pig and ovicaprid bone assemblage from the cistern appears to be quite similar in its basic traits to the bones found in the Early Hellenistic “dining deposit” west of Building D,¹⁶ indicating that they probably represent dining refuse. Unlike the remains of the dining deposit, however, in the cistern almost no remains of cooking or drinking vessels had been deposited. On the contrary, the bones of these domestic, “typical sacrificial animals” have been deposited along with the remains of a variety of “unusual animals”. We suggest that perhaps the cattle, pigs and ovicaprids were consumed in a dining event of a different nature/purpose.

The unexpected animals

Dogs

Among the identifiable bones, the majority (75.03%) belongs to dog (*Table 1*). Of those, two major groups emerge: the adults and the new-borns. Each of these groups includes animals of a variety of sizes. There are remains of at least eight adult dogs. The mature dogs are of various statures as is evident from the different sizes of their bones. All anatomical parts are present: front and hind legs, cranial parts, trunk and thoracic cavity, pelvis and tail, but they do not consist in complete skeletons. We can assume that the mature dog remains had been deposited in the cistern as loose bones. Some of the adult dog bones (metatarsals, phalanges, ribs) are burned (*Fig. 2*). Furthermore, four dog bones bear cut marks which indicate the skinning of the carcass and the breaking of the bones.



Fig. 2. Burned dog bones from the cistern.



Fig. 3. Various bones of newborn dogs from the cistern.

On the basis of the above it appears that various adult dogs were eaten after they had been skinned somewhere near the cistern. Their preparation probably involved the char-grilling of portions of dog meat. After the consumption of the meat and probably the temporary deposition of the bones in a hearth, the dog bones and probably their skins were deposited in the cistern. It is not possible to tell whether the puppies were also cut in pieces or they were deposited whole. They do not seem to have been char-grilled like the adults. They were either cooked in a different manner (boiled, stewed) or left uncooked.

Snakes

The cistern deposits produced a very large number of snake remains. They represent a number of different taxa and different individuals within each taxon, some of them reaching a length of over 1.5 m. The Montpellier snake (*Malpolon* sp.), the Balkan whip snake (*Hierophis gemonensis*), the Four-lined snake (*Elaphe quatuorlineata*), the Grass snake (*Natrix natrix*) and/or the Dice snake (*Natrix tessellata*), and the Nose-

¹⁶ For a brief presentation of the deposit, see Wells, Penttinen & Billot 2003; Wells *et al.* 2005, 164–179; Mylona 2008, 92–97; forthcoming b. For the detailed publication, see Mylona forthcoming a.

horned viper (*Vipera ammodytes*) are the identified taxa. These snakes are from both venomous and non-venomous varieties. A number of their remains, both vertebrae and ribs (but not cranial bones) are burned black or white (Fig. 4). No cut marks were observed. It appears that various snakes were killed, cut in pieces and exposed to fire, with the flesh still on.¹⁷ It is possible that the snake flesh was consumed, but other uses cannot be excluded.



Fig. 4. Burned snake bones from the cistern.

Other microfauna

This category includes frogs (cf. *Pelophylax* sp.), lizards (not of the green variety, *Lacertidae*), house mice (*Mus* sp.) and rats (*Rattus* sp.). One of the frog bones is burned black, indicating the use of the frogs, perhaps in a way similar to snakes. The rest of the microfaunal remains are all unburned.

Birds and bird eggs

Bird remains include the bones of a whole crow (*Corvus* sp.), bones of a cockerel and at least one or two chickens (*Gallus gallus*). They also include an assortment of bones from a partridge (*Alectoris* sp.), a finch (*Fringillidae*) and a possible quail (cf. *Coturnix*). Egg remains have also been found in most strata and they represent several eggs (Fig. 5).

¹⁷ We assume that the snakes had not been thrown in the fire complete. In that case we would expect their most-exposed bones, i.e. head bones and terminal tail vertebrae, to have been burned. This is not the case, as only a number of vertebrae and ribs are burned.



Fig. 5. Eggshell fragments from the cistern.

Equids

Equids are represented by a metacarpal, a metatarsal and ten teeth, nine of which are maxillary and belong to the same individual, a donkey (*Equus asinus*). The tenth tooth originates from a young equid, probably a horse. The set of donkey maxillary teeth is a strange find, not only because they are burned, but also because they do not correspond to any other equid cranial bones in the assemblage. It appears that the burned teeth of the donkey had been collected and deposited in the cistern in a loose form.

Fish

A total of 48 fish bones (13 identifiable) were recovered, and they represent a quite varied range of taxa, including a large grouper (*Epinephelus* sp.), a medium parrot-fish (*Sparisoma cretense*), sardine (*Clupeidae*), bogue (*Boops boops*), a large pandora (*Pagellus erythrinus*) and various small and large unidentified fish. They were distributed throughout the cistern's fill. Some of the fish bones are burned black.

Purple shells

A vast concentration of seashells was recovered deposited above all the other animal remains. They form an almost homogenous group of 2,355 *Bolinus brandaris* purple shells. A few other gastropod shells which are not usually considered edible were found mixed with them. Almost all the purple shells are complete and were apparently thrown in the cistern all together, forming a thick layer, on top of the animal bones.

Taphonomy: how was the assemblage formed?

It was a common practice in antiquity to use defective cisterns or wells as places where various types of fill were deposited, usually the clearance of destruction debris. Broken or complete vessels often ended up in functioning cisterns or wells as did dead animals. Additionally, such features often functioned as traps for a variety of animals from the nearby areas, which accidentally fell in them. During the excavation of cisterns or wells which had filled in the manners described above, one would expect to find either complete water-carrying vessels and animal skeletons or a variety of remains, such as broken pottery, broken or complete objects, charcoal and animal remains of various types.¹⁸ In the case of Feature 03, the cistern at the Sanctuary of Poseidon, apart from the variety in animal taxa and the abundance of glass fragments, very little else is present. Very few charcoal fragments or carbonized seeds have been found, despite the systematic water flotation of the cistern's soil,¹⁹ small objects and architectural pieces are extremely scarce and surprisingly, even pottery is very scant.²⁰ It is obvious that a different kind of process led to the accumulation of the cistern's animal bone assemblage.

As noted previously the animal remains have an uneven vertical distribution through the cistern's fill. A concentration of remains is observed in strata 5 and 6 (Fig. 2).²¹ These are also the strata which produced large amounts of broken glass vessels. The strata below stratum 6 are equally rich in variety but the remains in them are mostly microfauna or small elements of other animals. As the fill below stratum 6 consists of loose stones and soil, it could be assumed that the animal remains found in it have percolated from above over the years through cavities among the stones. The same is probably true for other categories of finds such as the glass, which is found in small fragments throughout the entire fill. The only case where a deliberate deposition appears to be clear is in strata 5 and 6, where we observe the largest concentration and the largest size of remains.

Summing up the above observations we could suggest that an old, apparently dried-up cistern was filled up with soil and stones. When the filling was almost complete a mass

of animal remains was thrown in. These included parts of two horses, a pig and a piglet, a bovine and four sheep and goats. Furthermore, pieces of several dog carcasses of various sizes and a large number of puppies were also thrown in. Snakes, birds, eggs, fish, frogs and a pile of seashells completed the picture. On top of all these a number of complete or broken glass vessels were thrown in the cistern. More soil eventually accumulated over the top.

Although a deliberate deposition or disposal of a range of dead animals, loose animal bones and glass vessels, complete or fragmented, in the half-filled cistern seems certain, the origin of these materials and their initial function is enigmatic. Some of the material, which has been presented above as from the "sacrificial animals" was probably general dining refuse that was lying around the site and was then collected along with the "unexpected" animal remains and deposited in the cistern. For the rest of the remains, however, several alternatives could be considered. One possible explanation is that when the cistern was to be sealed, the animals, especially the dogs and the snakes, were disposed of in it after they had been killed elsewhere, perhaps in a cleaning operation around the sanctuary. The rest of the remains (purple shells, loose bones of mammals, birds, fish and also eggs) might represent clearance debris, from somewhere near the cistern. Dogs and snakes however do not seem to have been simply unwanted or perhaps damaging animals which were killed and thrown in the empty cistern. The adult dog carcasses were already disarticulated, and their bones were probably free of meat before they were deposited. Some of them were burned and cut, which of course implies some processing before their disposal in the cistern. This processing might have involved the skinning and eating of the dogs. The burning traces on several of the snake vertebrae and ribs suggest that they had also been processed in some way before their disposal.

It should be noted that none of the non-domestic animals present in the assemblage could occur naturally in the cistern, with the possible exception of the frogs. The snakes are of many different species, originating from different habitats, including lakes/ponds or rivers. Besides, both the snakes and the lizards could not have survived in the dark interior of the cistern, because their bodies require regular exposure to the sun.²² But even the frogs' origins are dubious. If they had been naturally trapped and died in the cistern dump one might expect to find their complete skeleton. This is not the case however; only loose, non-articulated frog bones have been collected. The presence of the single burned frog bone strengthens the hypothesis that they were deliberately deposited.

¹⁸ For examples, see Poulou-Papadimitriou 2008 (Byzantine: Eleutherna, Crete); MacGillivray, Sackett & Dressen 2007; Wall-Crowther 2007 (LM: Palaikastro); Roberts & Glock 1986 (Archaic: Agora in Athens).

¹⁹ Sarpaki forthcoming; Ntinou forthcoming.

²⁰ Wells, Penttinen & Hjohlmán 2007, 36–37, 41 and 89–94.

²¹ The strata within the cistern are artificial and do not correspond to actual differences in the soil. This method was followed because the restricted space in the cistern did not allow for the accurate recording of changes in soil.

²² Lymberakis & Iliopoulos forthcoming.

As mentioned above, the inclusion of all major finds, animal remains and glass vessels in the same strata (especially strata 5 and 6) probably suggests a contemporaneous deposition, or at least deposition within a short period of time. If, on the basis of our observations, we exclude the possibility that these remains are random refuse or the products of a thorough cleaning of the sanctuary, we could perhaps link them to one or more sets of activities in the sanctuary which took place at the same time. What sort of activities would involve many dogs and puppies, snakes, frogs, sheep and goats, pigs and piglets, horses, fish, birds and eggs and purple shell-fish. What would lead to their accumulation in a half-filled cistern?

Discussion

The combination of animal remains in the cistern is very unusual. No other published bone assemblages similar to this one exist so far in the Greek world, although individual taxa, especially dogs and puppies are occasionally reported.²³ A similar case has been reported from Etruscan Italy.²⁴ Because no direct comparative cases are available, we will attempt to gain a measure of understanding of the origin and the function of these animals before their deposition, by exploring common associations between them. This is achieved, by investigating the various uses, meanings and symbolisms that each of these animals had in the ancient Greek world, as these emerge from a variety of sources, mostly literary but also through representational arts and physical remains. The following review is not exhaustive. The cases presented here do not bear any chronological coherence and are treated as examples which reveal possibilities of interpretation rather than interpretations as such. Additionally the texts cited here are of various literary genres, of different degrees of completeness and also of different literary readership. This review mostly aims to define the various domains in which each of these animals participated, or was perceived to participate, by providing specific examples for each case. A distinction should

be made, however, between the remains of the “normal” sacrificial animals and those of the other, “unusual” animals. The first group undoubtedly played roles other than that of the sacrificial victim, but those will not be discussed here. As noted above, we consider these as ordinary food refuse, whether related to sacrificial practices or not.

Dogs

Dogs were part of the daily life of ancient Greeks, as pets, hunting companions and herding guards.²⁵ Gnawing marks on animal bones are quite common in zooarchaeological assemblages from almost all excavations, thus indicating that dogs were roaming around settlements and being fed on table leftovers.²⁶ The relationship between dogs and people seems to have changed over the centuries, but certain themes seem to remain constant from at least the 6th century BC to the Roman period.²⁷

Dog flesh was eaten. This is attested archaeologically by numerous cases from a variety of dates and of a wide geographical distribution, where dog bones bear traces of cut marks and burning, both features that are usually related to cooking and consumption.²⁸ Literary sources present the consumption of dog flesh as an activity linked to distant people with strange habits such as the Thracians,²⁹ to restricted specialized diets in a medicinal context,³⁰ or to special religion-determined circumstances, such as the “Hekate’s meals”, which prescribed the dedication to Hekate and the exposure at crossroads of puppies’ meat among other foodstuffs, which were subsequently consumed by the poor.³¹ An early refer-

²³ Day 1984; Luce 2008. Interestingly dog bones with cut and burning marks have been found in a 3rd century fill of a well at Eretria, in association with bones of human infants as well as in a number of other contexts on the same site (Chenal-Velarde 2006). Also similarly cut and burned dog bones have been identified in a 6th–5th century BC well fill in Syracuse (Sicily), possibly related to the cult of Artemis-Hekate (Chilardi 2006).

²⁴ I owe this information to Katie Rask, Ohio State University. An example of such assemblage originates from a well in Area C at Pyrgi in Latium (modern Santa Severa), which chronologically corresponds to the Archaic period. The assemblage included bones of pig, ox, birds, and frogs (Cardini 1970).

²⁵ Merlen 1971; Anderson 1985, 32–34, 43–48 and 51–52; Luce 2008; Trantalidou 2006.

²⁶ For the occurrence of gnawing marks on animal bones from various contexts within the Sanctuary of Poseidon, see Mylona forthcoming a. The presence of dogs in sanctuaries was in some cases prohibited, see Scholz 1937, 77; Parker 1983, 357.

²⁷ Luce 2008; Kitchell 2004.

²⁸ Examples and relevant bibliography in Luce 2008, 280–286; see also De Grossi Mazzorin & Minniti 2006; for another example of cut and burned dog bones from a sanctuary at Eretria, Greece (Hellenistic) see Chenal-Velarde 2006.

²⁹ The reference to the Thracian custom of eating dogs is found in the work of Sextus Empiricus, who wrote in the 2nd/3rd centuries AD (*Pyrrhoniae hypotyposes*, 3.225; Pellegrin 1997), discussed by Luce 2008, 281, where other relevant cases are also cited. More generally on dog flesh taboos, see Simoons 1994, 203–249.

³⁰ An example for the consumption of dog flesh in a medicinal context is found in the Hippocratic collection: “Dog’s flesh dries fevers and gives strength, but does not pass through as stool.” (*On Diet [Vict.]* 2.46). For a discussion of food consumption as a healing agent, see Garnsey 1999, 83–84; for more examples about dog eating in a medicinal context, see Luce 2008, 281–283.

³¹ Lucian *Dial. mort.* 1.1 and 2.3; von Rudloff 1999, 85–86; Scholz 1937, 14–22.

ence by the 6th century BC poet Ananios however, places the consumption of dog flesh in the context of ordinary autumnal eating along with the meat of piglets, kids, hare and fox.³² This source, along with the archaeologically identified dog bones with consumption traces on them mentioned earlier, suggests the possibility of a more widespread practice of dog eating.

The connection of dogs with healing however went far beyond the consumption of dog flesh as a restorative food. Dogs, especially puppies, were part of the healing process in sanctuaries of Asklepios. Such cures are described on 4th century BC inscriptions from Epidauros and in several literary texts.³³ The healing involved the licking of the ailing part by a dog or puppy and often the subsequent disposal of the animal in a chasm in the earth.³⁴ Dogs were also used in rituals related to birth, either to purify or to ease the birth.³⁵

Dogs were sacrificed to certain deities, such as Hekate, Ares at Sparta and Eileithyia at Argos,³⁶ but were also sacrificed in an act of purification.³⁷ Dog sacrifices are attested archaeologically from all over the Greek world.³⁸ Pausanias refers to a case of divination by the innards of dog that was practised in the late 5th century BC by the Elaeian Thrasyboulos, a soothsayer (Paus. 6.2.4).

Snakes

As a generic category of animals, snakes were highly symbolic in the ancient world. They were involved in a large number of rituals. Snakes were perceived in connection with the underworld for the obvious reason that the typical snake appears to emerge from the earth and descend there. As such chthonic creatures they probably played a role in the Eleusinian mysteries; according to certain sources they resided in the *megara* and ate the piglets and other items that were thrown in during the Thesmophoria.³⁹

Snakes had an association with several deities, mostly on mythological grounds or as symbols.⁴⁰ Apollo at Delphi, for example, succeeded Python, the oracle god who was often represented as a serpent.⁴¹ Figurines of snakes, very often in the form of bracelets, were dedicated in sanctuaries, especially in the Archaic period.⁴² Snakes appear as monsters or in monstrous combinations in mythology (the Lernaian Hydra or Medusa). Snakes were considered as guardians of private houses, tombs and sacred places and they appeared as symbols of the souls of the dead,⁴³ mediating between life and death.⁴⁴ They were also very important in healing, thus becoming the symbol of Asklepios. Pausanias mentions the tame yellowish snakes that were peculiar to Epidauros and considered as sacred to Asklepios (Paus. 2.28.1).⁴⁵ In the context of healing in the Asklepieia, at certain occasions snakes affected the cure.⁴⁶

Snakes seem to have been used as a means of divination. Of interest is a story preserved in a strange work, the Orphic *Lithica* (lines 690–715). There, in a discussion of the *liparaios lithos*, the “fat stone”, a sacrifice of snakes for mantic purposes is described. The fat stone is burned, producing a smell that is particularly attractive to snakes. Snakes start moving towards the fire and the first to reach it is seized by three boys and torn into nine pieces.⁴⁷ Finally, serpents conveyed a rich plethora of meanings in the dream world of Artemidoros in the 2nd century AD.⁴⁸

their physiology requires regular exposure to the sun and also because they are not carrion eaters, but rather hunters of their food (Lymberakis & Iliopoulos forthcoming). For snakes at the Thesmophoria, see also Ruscillo in this volume. For snakes in chasms, see Bevan 1985, 161–162.

⁴⁰ See Bevan 1986, 261 and 265–267 and references therein.

⁴¹ For the relevant myth, see Chappell 2006; Harrison 1899, 223. For the iconography of Delphic serpent-related myths, see Harrison 1899; Kuster 1913, 85–100 and 104–120.

⁴² Bevan 1986, 268–277.

⁴³ The Greeks believed that the dead might appear in the form of a snake; snakes are illustrated in funerary contexts very often (Burkert 1985, 195).

⁴⁴ For the Roman world, see Turcan 1996, 260–265; Gilhus 2006, 108.

⁴⁵ Burkert 1985, 214. Snakes were regarded as incarnations of Asklepios at Epidauros, Kos and also in Rome. Asklepios is also related to dogs. In many of his shrines we have evidence for the maintenance of sacred dogs (Epidauros, Athens, Lebena, Rome); see Farnell 1970, 240. It should be noted here that chasms and the presence of water (both met at a cistern) were also integral parts of the healing practice.

⁴⁶ Wickkiser 2008. The epigraphic record describes such cases: one man's toe was healed by a snake that came out of the *abaton*, the building where the patients slept, and licked it (LiDonnici 1995, 96–97), while a viper opened a tumour of a certain Melissa (LiDonnici 1995, 118–119).

⁴⁷ The poem dates to the 4th century AD, probably based on a 2nd century AD treatise by Damigeron (Giannakes 1982). The tearing of the snake and its association with fire (and burning?) would perhaps produce remains similar to the ones found in the cistern.

⁴⁸ Artem. 2.13, 4.67 and 4.79; White 1990.

³² Cited in Ath. 7.282a–b. See discussion in Mainoldi 1984, 171.

³³ For the use of dogs in the Asklepieion at Epidauros, see LiDonnici 1995, 98–99 and 104–105; for other cases see Farnell 1970, 240.

³⁴ Gourevitch 1968; Gilhus 2006, 109; Scholz 1937, 10–24; Mainoldi 1984, 58.

³⁵ von Rudloff 1999, 121.

³⁶ Scholz 1937, 14–24; Merlen 1971, 86 and Mainoldi 1984, 51–59 for a list of literary references to dog sacrifices. Especially for dogs in connection to the cult of Hekate, see von Rudloff 1999, 120–121.

³⁷ Merlen 1971, 86; Mainoldi 1984, 72–73, and a more general discussion in Luce 2008, 283–284.

³⁸ Day 1984; Luce 2008.

³⁹ Clinton 1998, 69–80. According to a scholiast to Lucian (*Dial. meret.* 2.1, Rabe p. 275.23–276.24) “it is said that there are snakes down below in the chasms which eat most of what is thrown down”. At Eleusis the *megara* are over 7 m deep and epigraphic evidence suggests that piglets were thrown in them once a year. This scenario presented by Lucian's scholiast is quite unlikely. Snakes cannot live in such dark depths because

Equids

Equids, i.e. horses, mules and donkeys, were certainly used around the sanctuary of Kalaureia, as well as in the town and countryside around it, as draught animals (transportation, agricultural tasks etc).⁴⁹ They were also considered as a status symbol and were in certain cases buried along with humans.⁵⁰ Their bones are not found in archaeological strata as often as other domestic animals, probably because their carcasses were often disposed of away from the settlement.⁵¹ Equids held an ambiguous culinary position in ancient Greece. Their flesh was certainly considered edible, but its actual consumption was socially tinted. Only the very poor, or people on the periphery of the Greek world ate it. Eating equid flesh in a medicinal context however was much more acceptable.⁵² Ancient Greeks seem to have perceived certain equids, i.e. donkeys, in connection with drinking and merriment.⁵³ Participation of equids in cult seems to have been a rather unusual phenomenon.⁵⁴ Horses were specially connected to certain gods, especially Poseidon⁵⁵ but also some other deities. They were occasionally sacrificed to Poseidon, sometimes by submersion in a spring (Paus. 8.7.2, Apollod. *Bibl.* 1.7.8).⁵⁶ Other deities also received sacrifices of equids; a young horse was sacrificed to Helios (the Sun) and a donkey to the Wind (Hsch., s.v. ἀνεμώτας). We find also some references for the use of equid bones in magic. In the *Greek Magical Papyri* we read that a tooth from the upper jaw-bone of a female ass can be used to make a love spell of attraction.⁵⁷

Fish

The role of fish as food is obvious, and such a use is well-attested in the sanctuary.⁵⁸ Their occasional use as offerings or animals of sacrifice is known through a variety of written

sources, epigraphic and literary,⁵⁹ but also archaeologically.⁶⁰ The consumption of fish was often an ideologically and symbolically laden act.⁶¹ This symbolism often went beyond the social arena into religious ritual. The avoidance of fish eating or contrarily, prescription for the consumption of certain fish was in certain contexts strictly regulated by religious rules.⁶² The association of small fish to Hekate is such an example.⁶³ Moreover, the heavily symbolic nature of fish is evident in the fact that they functioned as symbols to be interpreted in dreams.⁶⁴ Although there is no strict relation between fish and a certain god, some deities appear in association to fish more often than others. These are Poseidon, the sea god *par excellence*, Artemis, Hermes, Pan, Hekate and Aphrodite.⁶⁵

Purple shells

The archaeological remains of purple shellfish, either *Bolinus brandaris* or *Hexaplex trunculus*, are usually connected to purple dye industry, especially if found in large amounts.⁶⁶ In smaller quantities they are usually interpreted either as food or as fishing bait.⁶⁷ No clear case of purple shells as offerings has been published so far from excavations of a historical date,⁶⁸ although another kind of shell, which in ancient

⁴⁹ Isager & Skydsgaard 1992, 85–89.

⁵⁰ Reese & Kosmetatou 1995; Camp 1998, 10; Antikas 2006; and various papers in Gardeisen 2005.

⁵¹ Disposing the carcasses of dead donkeys or mules down disused wells or cisterns is still a common practice around the Greek countryside.

⁵² E.g. Gal. *Nat. Fac.* 3.1.9 (Grant 2000, 154–190); Dalby 1996, 60–61; Simoons 1994, 180–183; see also Garnsey 1999, 83–85.

⁵³ For rhyta shaped as donkey heads, see Hoffmann 1962; Lissarrague 1995.

⁵⁴ Georgoudi 2005.

⁵⁵ Malten 1914; Bevan 1986, 195–200 and 204–213; Burkert 1985, 297–299; Simoons 1994, 181–182.

⁵⁶ Burkert 1985, 138; Georgoudi 2005, 139.

⁵⁷ Betz 1986, iv 2891–2942 (p. 92). Also for a discussion of a Roman case, see Gilhus 2006, 231–234.

⁵⁸ Mylona 2008, 92–97; Mylona forthcoming a.

⁵⁹ A Hellenistic epigram by Apollonides, for example, describes how Menis, the fisherman, offered to Artemis a grilled red mullet and a hake, along with some wine and bread in return for a rich catch (*Anth. Pal.* 6.105). For more examples, see Mylona 2008, 97–99.

⁶⁰ Geometric strata from Kommos produced a large number of fish bones, most of which are burned. These fish have been interpreted as offerings or sacrifices (Rose 2000; Lefevre-Novaro 2010). See also Bevan 1996, 133–134, for the offering of fish figurines.

⁶¹ Wilkins 1993; Davidson 1993; 1995; 1996; Mylona 2008.

⁶² E.g. Pythagorians (Plut. *Quaest. conv.* 728c–730f). For a comprehensive discussion of the issue and relevant bibliography, see Mylona 2008, 106–108.

⁶³ See above, n. 40.

⁶⁴ Artem. 2.14. According to Artemidoros, in mid/late 2nd century AD, more than 50 species of fish and marine life had specific meanings in dreams.

⁶⁵ Rose 2000, 520–536; Mylona 2008, 98.

⁶⁶ Reese 2000; Alfaro & Mylona forthcoming. The process of purple dye production requires the use of live shells. It mostly took place on the beach, where fresh materials and plenty of water and water features (e.g. rock cut basins) were readily available. It is unlikely that such a process would take place in a crowded place such as the Sanctuary of Poseidon, far from the sea (approximately 900 m from the sea and 190 m above sea level).

⁶⁷ For the use of purple shells as food see Karali 1999, 14–17; for their use as fishing bait, see Karali 1990, 411.

⁶⁸ The assemblage of purple shells from the cistern in the sanctuary could represent a sackful of shells, or many smaller amounts, that had been brought on site as offerings by purple shell fishermen in the vicinity of Kalaureia. It should be noted here that the Saronic Gulf had a strong tradition of this kind of fishing and the nearby town of Hermione, which had plenty of connections to the sanctuary, was famous in antiquity for its purple cloths (Plut. *Vit. Alex.* 36).

literature is often mentioned along with the purple shells,⁶⁹ had been used in a ritual context on Delos.⁷⁰ In literature, purple shells are referred to in connection with purple dye production or in biological treatises.⁷¹ Other domains where they are treated in some detail are the medicinal and the gastronomic.⁷² In the latter the discussion refers to their taste in relation to other shells or the improvement of their poor taste through elaborate cooking.⁷³ In medicinal literature the purple shells appear to possess several healing properties.⁷⁴

Lizards

Lizards of the kind found in the cistern (not *Lacertidae*) favour rocky, dry environments with minimal shrub cover. They have rarely been reported in archaeological excavations mostly due to the small size of their remains, their fragility and also the application of unsuitable retrieval methods in the field. However, lizards played a role for ancient Greeks. Aristotle, for example, studied their physiology quite extensively (e.g. Arist. *Hist. an.* 488a24, 489b21, 503b12, 509b8 and 558a14). Lizard illustrations are found on coins,⁷⁵ on gems⁷⁶ and on ceramic vessels⁷⁷ of various dates. It seems that lizards were occasionally used in healing. Aelian refers to lizards in relation to the healing of human eyes (Ael. *NA* 5.47). Above all however, lizards were one of the most common ingredients in magic recipes. Although geckos were the most potent type of lizard, other kinds were also used, in

charms of sexual attraction and personal strength.⁷⁸ Lizards were also perceived as portents (Paus. 6.2.4),⁷⁹ and in one case we find oracles that link Hekate to lizards (Euseb. *Praep. evang.* 5.14.2). Although the lizard symbolism had probably changed over time, its connection with the occult remained.

Frogs

The presence of frogs implies the presence of water and damp vegetation.⁸⁰ We do not find them in Greek art and literature very often,⁸¹ but in the rare cases when we do, the reference to frogs implies the existence of springs and other water bodies.⁸² A frog was illustrated on an Archaic (530–500 BC) silver stater from Seriphos.⁸³ Its choice as a representation on Seriphean coins was probably based on the pun “Seriphean frog,”⁸⁴ a proverb applied in antiquity for those who could not speak or sing well because, according to the legend, the frogs on Seriphos were mute (Plin. *HN* 8.83).⁸⁵ Live frogs were a feature of the Letoon of Xanthos in Asia Minor.⁸⁶ Divination by the entrails of frogs is also mentioned in literature (Juv. 3.44–45), especially of the Roman era, when it was considered a foreign influence.⁸⁷ Frogs were also used in magic.⁸⁸

Mice

House mice and rats such as the ones found in the cistern, are mostly vermin. They are found in houses and storerooms, and among agricultural populations they represent a threat. Their presence in the sanctuary area is not surprising. In the perception of ancient Greeks however, mice had a strong connection with crops. This is probably why we find them illus-

⁶⁹ Bélis 1999, 300–303.

⁷⁰ There are records for the use of silver or silver-coated large shells (cf. *Charonia* sp. or *Tonna galea*) on poles, used in sacred procession (Prêtre 1999, 393).

⁷¹ For a review of these sources, see Alfaro & Mylona forthcoming; see also Moatsos 1932.

⁷² Detailed discussion and references in Bélis 1999.

⁷³ In gastronomic texts, we read that the taste of the flesh from purple shellfish was not very highly appreciated by the gourmets of the 4th century BC onwards, unless it was altered by condiments and special preparation. This however cannot be taken at face value, as it mostly reflects the taste of urban consumers, who had access to this kind of food through the market (Bélis 1999). Ethnographic observations along the Greek coast show that the purple shells had, in older times, been consumed regularly, either as an impromptu snack on the beach, by fishermen, or along with other kinds of seafood in stews. For a discussion on taste around fish and seafood in Classical Greece, see Mylona 2008, 81–84 and 88–90.

⁷⁴ Ground or burned purple shells were used to treat ulcers and tumours, genital diseases, to improve the blood etc. (Bélis 1999).

⁷⁵ See for example a Thasian coin illustrating Tyrian Herakles with a lizard in front of him, see Keller 1909–1913, 270–275.

⁷⁶ E.g. on a gem now kept at the Metropolitan Museum of New York, dated in the second half of the 5th century BC; Richter 1930, 36, pl. 66, fig. 236.

⁷⁷ Hurwit (2006) gives a detailed discussion of the lizard as a theme on Archaic vessels and discusses its symbolism in the Archaic and Classical periods with commentary on the lizard symbolism at later periods.

⁷⁸ Nock 1976.

⁷⁹ Hurwit 2006.

⁸⁰ Hence the terms βορβοκόιτης (mudcoucher), λιμνήσιος (laker), λιμνοχαρής (marsh-loving), ὑδρομέδουσα (water ruler), φλοβάτης (mud walker), φιλόμβριος (rain-loving) (*LSJ*, s.v.).

⁸¹ But see Aristophanes' *Frogs*.

⁸² A dedicatory epigram celebrates the dedication of a bronze frog to the Nymphs (*Anth. Pal.* 6.43).

⁸³ For the attribution of this coin to Seriphos, see Svoronos 1898, 205–211.

⁸⁴ *Suda*, s.v. Βάτραχος ἐκ Σερίφου; *Suda On Line* (www.stoa.org; accessed June 2010).

⁸⁵ According to an etiological myth, Zeus turned the frogs into mutes because their voices interrupted Perseus' sleep after his encounter with Medusa (Ael. *NA* 3.37).

⁸⁶ Bevan 1986, 151.

⁸⁷ Halliday 1913, 192 considers divination by the innards of frogs as an Etruscan or Babylonian importation.

⁸⁸ Betz 1986, 277 (35, lines 312–320), 104, (5, lines 172–212).

trated on ears of wheat on coins from Metapontum⁸⁹ and also as bronze figurines, which were dedications in sanctuaries.⁹⁰

Crows

Crows are birds whose physiology was well-studied in antiquity.⁹¹ They could be tamed and taught to imitate human speech or animal voices.⁹² The crow was one of the popular characters in fables and stories.⁹³ They were associated with Athena and were part of the wedding ceremonies, symbolizing fidelity.⁹⁴ Perhaps the most characteristic aspect of these birds was the use of their cries, flying patterns and numbers as auguries.⁹⁵

Chicken and cockerels

The date of the introduction of chicken in the Greek world is a matter of scholarly debate⁹⁶ and its use as a source of food (eggs and meat), either for secular consumption or for sacrifice, is still unclear.⁹⁷ Roosters and hens were kept in certain temples, for ritual use.⁹⁸ Cockerels were associated to various gods, especially warlike ones such as Ares and Athena, and also to Dionysos (on the basis of a sexual association).⁹⁹ Additionally the cockerel was consecrated to Maia, mother of Hermes; initiates to her mysteries abstained from eating domestic birds, just as the initiates in Demeter's Eleusinian mysteries did (Porph. *Abst.* 4.16). The cock was the expected sacrificial victim to Asklepios after healing¹⁰⁰ and was also associated with the underworld. In the Graeco-Roman world cockerels were sacrificed to deities of the underworld in the interest of the dead.¹⁰¹ In addition they were commonly illustrated on tombstones.¹⁰² Certain sources preserve reference to the involvement of cocks to certain agricultural rituals¹⁰³ and also, at least in Roman times, to the divinatory

practice of *alektryomancy* (i.e. divination by observing the sacred chicken).¹⁰⁴ In temples ritual cockfighting took place,¹⁰⁵ while in more secular contexts the cocks were an ingredient for magic spells.¹⁰⁶ Furthermore, cockerels have been illustrated on Archaic vases as love gifts.¹⁰⁷

Eggs

References to egg-eating are not very common in sympotic literature and when they occur, their consumption is usually placed in the context of extravagant symposia, where eggs are ingredients in elaborate recipes.¹⁰⁸ Although it is evident that eggs were eaten, their shells are rarely detected archaeologically in domestic contexts, because of their fragility and inappropriate retrieval methods applied in the field.¹⁰⁹ The egg, usually with no determination of species, was a highly symbolic food in antiquity for an obvious reason: the generation of life from within it. Its philosophical and cosmological connotations, reflecting a strong oriental influence, are evident in the Orphic cosmology.¹¹⁰ Egg-eating was in some cases a taboo.¹¹¹ In the sources, there is even a reference to an egg-swallowing ritual.¹¹² Eggs, real or made of clay or stone were deposited in graves.¹¹³ In Rome the egg symbolized life and fertility and was used in connection with deities that were associated with earth and reproduction (e.g. Ceres–agriculture).¹¹⁴ Finally we find eggs as ingredients in magical recipes.¹¹⁵

⁸⁹ Richter 1930, 35 and 79, fig. 184.

⁹⁰ E.g. Waldstein 1905, 384, pl. 76.

⁹¹ For a review of all references, see Arnott 2007, 113–117.

⁹² Arnott 2007, 114.

⁹³ Temple & Temple 1998.

⁹⁴ Temple & Temple 1998, 115.

⁹⁵ E.g. Hor. *Carm.* 3.17.13; Plin. *HN* 18.87. For full references, see Arnott 2007, 114.

⁹⁶ Sergeantson 2009; *eadem* forthcoming; Trantalidou this volume.

⁹⁷ Sergeantson 2009; Sergeantson forthcoming.

⁹⁸ Ael. *NA* 17.46; Thompson 1964, 41.

⁹⁹ Simoons 1996, 154; Bevan 1986, 28 and 41.

¹⁰⁰ Jayne 1962, 296; Kilby 1979.

¹⁰¹ Representations of birds (among which many are cockerels) are common in several sanctuaries (Bevan 1986, 43).

¹⁰² Goodenough 1953–1968, 64–67.

¹⁰³ At Methana a cockerel was sacrificed as a means of ensuring protection from the scorching south-west wind and a good grape harvest (Paus. 2.34.2).

¹⁰⁴ Cic. *Nat. D.* 2.3.7; *Div.* 1.29 and 2.71, discussed in van der Horst 1998.

¹⁰⁵ Lonsdale 1979, 155; Waida 1987. For a late 5th century BC illustration of cock fighting, see Richter 1930, 40, fig. 216.

¹⁰⁶ One goose, three pigeons and three roosters were placed in a pit and burned as part of such a magical preparation (Betz 1986, 161).

¹⁰⁷ Shapiro 1981. For representation of cocks in sculpture, see Richter 1930, 39–40.

¹⁰⁸ Dalby 1996, 112; Dalby & Grainger 1996, 47, 97 and 117.

¹⁰⁹ For eggs from archaeological contexts that were not eaten, see Sergeantson 2009, 178–179.

¹¹⁰ Leisegang 1955.

¹¹¹ Plut. *Quaest. conv.* 635, discussed in Burkert 1983, 40, n. 25.

¹¹² Mart. Cap. 2.140; Burkert 1983, 40, n. 25.

¹¹³ Kurtz & Boardman 1971, 77. See also Aaris-Sørensen 1981, 91–101, and Højlund 1983, 146, on the Maussolleion of Halikarnassos, where 26 hens' eggs were found.

¹¹⁴ Simoons 1994, 156.

¹¹⁵ Betz 1986, 83.

Common trends and associations

In this preceding review of the use and meaning of the various types of “unusual” animals several trends are evident.¹¹⁶

The animals most commonly encountered in the cistern are not “typical” sacrificial animals that were sacrificed on an altar and consumed at sacrificial meals (at least as far as our written sources go).¹¹⁷ Sacrificial function of these animals, however, was not excluded altogether. They are either referred to as sacrificial victims in the geographical or social periphery of the Greek world, or mentioned as curious phenomena. The sacrifice of the cockerel as a means of ensuring protection from the scorching south-west wind and a good grape harvest at Methana is such an example.¹¹⁸ Alternatively, the sacrifice of these “unusual animals” is linked to a specific god only, or to specific circumstances. Horses, for example, were sacrificed to Helios or to Poseidon in specific cases, while puppies were sacrificed to Ares at Sparta.

Most of the “unusual animals”, such as the snakes, the lizards, the frogs and the crow, were not considered edible.¹¹⁹ Even those that were perceived as a possible source of food were often covered by alimentary taboos.¹²⁰ Eggs, for example, were strongly related at the symbolic level to the regeneration of life and their consumption was in some cases prohibited by taboo, while chicken was not eaten by the initiated at the Eleusinian mysteries. Several ancient sources however make it clear that these same animals were eaten by individuals or groups in the social and geographical periphery of the Greek world, or that their status as edible or inedible could change.¹²¹ The edibility or not of dog flesh is a good example of such a case.¹²²

Some deities appear in the textual record to be related to several of these animals more often than others. Poseidon, Hekate and Asklepios are the names that appear more frequently. Puppies, snakes and cockerels, all animals with medicinal properties, were apparently part of the healing process in the Asklepieia and the actual animals were living within their precincts. Hekate was a goddess linked to the women’s world, to child-bearing, to crossroads and to the

darkness. Dogs, snakes, fish and eggs are known to have been connected to her.¹²³ Hekate is also a goddess known from the *Theogony* to be associated to Poseidon, the god of the sea and springs. Together they were prayed to by fishermen.¹²⁴ The example of the shared characteristics (protectors of sea fishing) between deities, which are usually considered by the Classical discourse as unrelated, as in the case of Poseidon and Hekate, is instructive. Given that the ancient Greek pantheon comprises deities each with a wide range of traits,¹²⁵ it should perhaps be more fruitful for our purposes to view the associations of animals not with the deities themselves but with the forces they represent in each case.

Many of the animals in the cistern had a strong association with water and earth. On one hand, we have the aquatic element in the form of purple shells, the fish, the water snakes, the frogs. On the other, we have the chthonic element in the form of snakes, lizards, dogs, puppies and eggs. A joined cult like the one represented in the example of Poseidon and Hekate cited above could explain the combination of the two domains, but would leave out several of the animals that do not fit in any given scheme.

Divination and magic are two domains that account for almost all the categories of animals found in the cistern. Divination had many forms in antiquity, and it was practised both in sanctuaries and in more secular contexts.¹²⁶ It is interesting that almost all the animals in the cistern could have had a divinatory function. The use of the animals in magic appears at first to be a link worth investigating. Magical processes and rites could explain almost all the “unusual” finds in the cistern.¹²⁷

Use of “unusual” animals as food or in ritual could be related to a side of life in a sanctuary that was not reported in public, at least not in written form, that was not commented upon formally or informally. If we investigate each type of animal separately, many are linked to magic, medicine, superstition, or situations that take place in the social periphery.

¹²³ von Rudloff 1999, 85–86 and 120–123.

¹²⁴ Hes. *Theog.* 440–443: “to those whose business is in the grey discomfortable sea, and who pray to Hecate and the loud-crashing Earth-Shaker, easily the glorious goddess gives great catch, and easily she takes it away as soon as seen, if so she will.” (Translation by Hugh G. Evelyn-White). Furthermore, there is some tentative evidence for an association between the two at Eleusis, where an Archaic temple of Hekate has been located underneath a Roman temple dedicated to Poseidon and Artemis Propylaia (Clinton 1988, 76).

¹²⁵ Poseidon for example except being worshipped as the ruler of the sea was also worshipped as the Shaker of the Earth, the Protector of the crops etc. For the various epithets and characteristics of Poseidon, see Burkert 1985, 136–139.

¹²⁶ For definitions and more general discussions of magic and divination, see Graf 1997; Giraolo & Seidel 2002; Halliday 1913.

¹²⁷ For an abundance of references to various animals, see Betz 1986.

¹¹⁶ The following discussion is not geographically or temporally specific. Its aim is to reveal possible associations rather than definite interpretations.

¹¹⁷ See n. 16.

¹¹⁸ See n. 104.

¹¹⁹ See *NP*, XIII, 554–558, s.v. snake; VII, 755–756, s.v. lizard; V, 556–562, s.v. frog; III, 959–961, s.v. crow, as well as in reviews of ancient food items (e.g. Soyer 1977; Dalby 1996; Brothwell & Brothwell 1998).

¹²⁰ For a detailed treatise of alimentary taboos covering various types of animals, see Simoons 1994.

¹²¹ Parker 1983, 357–365.

¹²² Luce 2008.

However we may choose to interpret this find, we are not in position to judge whether it represents a unique phenomenon or whether it was common in sanctuaries. These types of small, seemingly insignificant, remains are very rarely collected in the excavations at sanctuaries.

Conclusions

The animal remains from the Early Roman cistern (Feature 03) in the Sanctuary of Poseidon at Kalaureia appear to be quite an unusual, and so far, unique find. The assemblage consists of thousands of animal bones and shells of a very wide range of taxa, which include seashells and fish, birds and eggs, mice and rats, snakes, frogs and lizards, dogs and puppies as well as cattle, pig, sheep and goats. Stratigraphic and taphonomic considerations suggest that the assemblage was deposited in one episode, or several depositional episodes in a very short period of time. The find spot of this assemblage within the sanctuary and its very unusual composition raises a number of issues that call for interpretation.

The analysis of these remains presents us with challenges, which go beyond what is usually dealt with in a typical zooarchaeological analysis. The first challenge is about the broadening of the interpretative schemes used by zooarchaeology (and also other branches of bio-archaeological research).¹²⁸ Although the economic and archaeo-environmental component of these approaches has been explored in the case of the Sanctuary of Poseidon at Kalaureia,¹²⁹ this study takes zooarchaeological research a step further, into the realm of cult and belief.¹³⁰ In this paper certain notions were repeatedly encountered: magic, divination, death, marginality, earth, medicine. These, along with the much better understood notions of sacrifice, sacrificial animals, sacrificial dining, etc., lead to the realization that the animals did in fact participate in a reality of cult in a Greek sanctuary, that was both complex and multifaceted. In order to understand it better we should explore more widely issues of marginality, of folk beliefs, of local traditions, of individual interests, all which undoubtedly shaped the cultic practices in any given sanctuary in very complex ways.

¹²⁸ For a representative debate on the issue see various papers in Albarella 2001, esp. Hamilakis 2001. For zooarchaeology, see MacKinnon 2007; deFrance 2009.

¹²⁹ Various papers in Mylona & Penttinen forthcoming.

¹³⁰ The potential of zooarchaeology in the study of cult and belief has mostly been explored in relation to issues of sacrifice and to a lesser degree of sacrificial meals (for reviews see Hägg 1998; MacKinnon 2007; Mylona forthcoming b). For a re-examination of basic issues of cult and belief and the use of zooarchaeology in this context, see Pakkanen 2008; forthcoming.

The second challenge is methodological and faces the much-debated problem of the relationship between material remains and texts in the study of the classical past.¹³¹ In this paper animal remains are juxtaposed and compared to literary and epigraphic data about the possible uses of the same animals in the Greek world in a cultic context or otherwise. However, because texts and archaeological materials often reflect different activity domains and timescales in the past, in most cases, including this of the animal remains from the cistern, they cannot be used within a single comprehensive narrative.¹³² Instead, here we used the texts to construct a broad frame of reference where the animal taxa identified in the cistern acquired meaning and importance for the people in Greece of the historical times. This by no means offers a direct interpretation of the archaeological finds. As noted above it points to certain domains where all these animals could function.

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¹³¹ See n. 1.

¹³² Foxhall 2004.

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Rituels sacrificiels et offrandes animales dans le Sarapieion C de Délos

Abstract

In 2001, 2002 and 2004 two hearth altars (*escharones*) were excavated in the Sarapieion C on the island of Delos in Greece. They contained remains of sacrifices, notably rich zooarchaeological evidence, which has thrown light on the rituals practised in this sanctuary. The inscriptions are silent on this matter and the study of the bone assemblage thus constitutes important evidence. The rituals involved sacrifices of poultry (*Gallus domesticus*), making up 90% and 70% of the bone material collected in each hearth altar deposit, respectively. These poultry sacrifices were combined with those of small ruminants and pigs. The handling of the victims differed according to the species: the cocks and hens were consecrated whole while only parts of the sheep and the pigs were offered.

The two altars excavated in the Sarapieion C do not belong to the same period and a study of the bone evidence brings out distinctions between them. The oldest altar was no doubt abandoned when the younger one was brought into use, probably at the end of the 2nd century BC. It is interesting to note such differences that perhaps are to be explained by the development of the ritual practices in the sanctuary during the 2nd century BC.

The zooarchaeological material also gives information on the performance of the sacrifices, which differed in accordance with the animal species involved. All the bones from gallinaceous birds show traces of carbonization and these burnt bones indicate sacrifices of entire animals, of the holocaustic kind. The bone evidence from the small ruminants and pigs are partially burnt and some bones are even unburnt, which indicates only a selective burning of the bodies.

One can of course compare the sacrificial practices identified in the Sarapieion C on Delos with those studied at other sanctuaries dedicated to the same divinities and thus demonstrate the presence of a possible “*koine*” in Isis worship. However, similar sacrifices were also performed in cults of healing deities (foremost in sanctuaries of Asklepios). Historical interpretation should thus proceed with caution.

Résumé

En 2001, 2002 et 2004 ont été fouillés deux *escharones* (autels-foyers) dans le Sarapieion C de Délos. Ils contenaient des résidus sacrificiels et, notamment, un riche matériel faunique dont l'étude a apporté quelques lumières sur les rituels qui étaient pratiqués dans ce sanctuaire (les inscriptions sont muettes sur cette question et l'étude de la faune a donc représenté une avancée remarquable) : le rituel se caractérisait par des sacrifices de coqs (*Gallus domesticus*), dont les restes constituent 90% à 70% du matériel osseux récolté selon les dépôts. À ces sacrifices de gallinacés étaient associés ceux de petits ruminants et de porcs. La nature de l'offrande différait selon l'espèce : les coqs étaient consacrés entiers alors que seuls des quartiers de moutons et de porcs étaient déposés en offrandes.

Les deux autels fouillés dans le Sarapieion C n'appartiennent pas à la même époque et l'étude de la faune manifeste quelques différences entre les deux : le plus ancien a été abandonné sans doute au moment où le plus récent était mis en service, soit vers la fin du II^e siècle avant notre ère. Il est intéressant de manifester ces divergences qui sont peut-être à mettre au compte d'une évolution des pratiques rituelles dans ce sanctuaire dans le courant du II^e siècle avant notre ère.

La faune apporte en outre des informations sur le déroulement du sacrifice, qui s'opérait différemment selon l'espèce animale. Les restes d'oiseaux galliformes sont tous porteurs de traces de carbonisation, ces ossements brûlés indiquent des sacrifices d'animaux entiers, de type holocauste. Les fragments osseux des petits ruminants et des porcs sont partiellement carbonisés et pour certains non carbonisés, ce qui indique une combustion seulement partielle des quartiers.

On peut naturellement comparer les pratiques sacrificielles qui avaient cours dans le Sarapieion C de Délos avec celles qui ont été étudiées dans d'autres sanctuaires consacrés aux mêmes divinités et manifester ainsi l'existence d'une possible « *koine* » isiaque. Néanmoins, ces sacrifices s'apparentent également à ceux pratiqués pour les divinités médicales dans des sanctuaires de tradition grecque (Asclépios notamment). En matière d'interprétation historique, la prudence est donc de mise.

Introduction

Le Sarapieion C est, à Délos, le siège du culte officiel de Sarapis. Il a été fondé sans doute peu avant 180,¹ époque où ce dieu est déjà intégré au panthéon de la cité. Après les deux « catastrophes » déliennes de 88 et de 69, les inscriptions se raréfient, mais il ne paraît pas que le sanctuaire ait été déserté ; l'activité s'y est probablement ralentie, sans toutefois disparaître complètement avant la fin du paganisme. Ce sanctuaire est administré par les Déliens jusqu'en 167, puis par les Athéniens, nouveaux maîtres de l'île à partir de cette date et jusqu'au début du I^{er} siècle. Les dieux qui y sont vénérés sont principalement une triade composée de Sarapis, Isis et Anubis, auxquels s'ajoutent de nombreuses autres divinités d'origine orientale (Harpocrate par exemple) ou hellénique (Aphrodite ou Asclépios par exemple).²

Les constructions du Sarapieion C (*Fig. 1*) se déploient sur de vastes terrasses artificielles, soutenues par des murs d'*analemma*. L'accès principal est situé du côté Sud où l'on devine aujourd'hui les vestiges d'un petit propylon (propylon A). Le sanctuaire comporte une première cour trapézoïdale—l'esplanade méridionale—, longue de près de 120 m

et large, au plus, de 40 m, entourée d'un portique dorique, à trois ailes ; au centre, est construite une allée ornée de statues de sphinx (allée D) qui mène à un édifice hydraulique (édifice C). Au Nord du sanctuaire se trouve une seconde cour dallée, de plan quadrangulaire, autour de laquelle se répartissent chapelles et portiques. Sur son flanc Nord, se dresse le temple principal (temple F) consacré à Sarapis.³

Ce grand sanctuaire a été presque complètement fouillé en 1910, par P. Roussel ; tout en publiant les inscriptions, il a étudié l'histoire des cultes égyptiens à Délos et celle de l'administration des sanctuaires.⁴ Les questions rituelles tiennent une place réduite dans son ouvrage,⁵ ce qui n'est guère surprenant dans la mesure où elles restent mal documentées par les textes anciens. Les sacrifices eux-mêmes, au Sarapieion C, comme dans bien d'autres sanctuaires du monde grec, sont mal connus, car les textes sont muets ou très allusifs à leur sujet.⁶ Les fouilles conduites dans le sanctuaire de 2001 à 2004 nous ont heureusement fait connaître les vestiges de deux autels : l'un, au Sud, est construit non loin de l'édifice C ; le second, situé à une vingtaine de mètres au Nord du premier, appartient à une phase antérieure de l'esplanade méridionale. Tous deux contenaient des résidus sacrificiels dont l'étude vient combler, partiellement, le silence des textes.

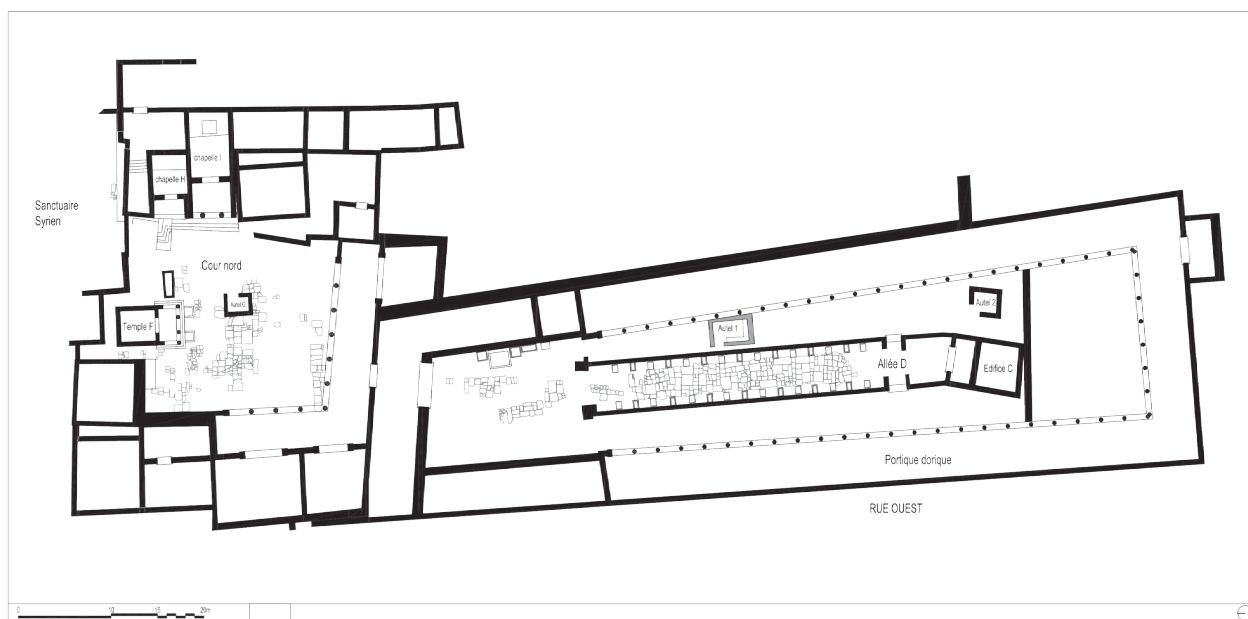


Fig. 1. Plan restitué du Sarapieion C de Délos (par Fr. Muller, architecte. © École française d'Athènes).

¹ Toutes les dates, sauf précision contraire, s'entendent avant notre ère.

² Pour une présentation générale de l'histoire des cultes égyptiens à Délos et celle du Sarapieion C, voir Roussel 1915–1916, 255–258 et 263–272. Quoique ancien, cet ouvrage reste valable pour l'essentiel.

³ Pour une présentation rapide de l'architecture du Sarapieion C, voir Bruneau & Ducat 2005, n° 100.

⁴ Roussel 1915–1916.

⁵ Seules quelques pages sont en effet consacrées au culte tel qu'il était célébré dans les sanctuaires de Délos : Roussel 1915–1916, 284–289 ; la plupart des informations que donne P. Roussel sont tirées de textes littéraires, en particulier du roman d'Apulée, *Les métamorphoses*.

⁶ Dunand 1973, vol. 3, 202.

Nous concentrerons ici notre étude sur les restes fauniques, en laissant de côté les autres trouvailles, notamment les macro-restes végétaux, dont l'étude n'est pas encore achevée. Les ossements permettent déjà d'approcher ce que devaient être les sacrifices d'animaux dans ce sanctuaire. Le cas du Sarapieion C est particulièrement favorable car les dépôts osseux sont nombreux et dans un état de conservation assez satisfaisant ; on reconstitue ainsi, avec assez de précision, les détails du rituel qui était pratiqué. De plus, les restes sont issus de contextes clairement identifiés mais différents : ils invitent à une comparaison stimulante entre les deux autels, même si l'interprétation historique des résultats obtenus demeure limitée par le manque de donnée textuelle précise. Il est possible enfin de comparer les lots provenant du Sarapieion C de Délos avec ceux d'autres sanctuaires orientaux du monde gréco-romain et ainsi d'évaluer la singularité—ou au contraire la conformité—du cas délien.

Présentation des autels du Sarapieion C et du matériel osseux

Architecture des autels

Les deux autels du Sarapieion C offrent de remarquables similitudes architecturales : ils comportent tous deux une enceinte maçonnée qui protège un foyer posé à même le sol ; près de l'angle Nord-Ouest de leur enceinte se trouve une petite entrée qui donnait accès au foyer proprement dit, ce qui permet de reconstituer des murs périphériques assez élevés. Ils se rattachent aux types des « autels-creux » ou « autels-foyers », tels que les a définis par exemple C. Yavis.⁷

L'autel I (Fig. 2)

Le premier autel,⁸ fouillé en 2004, est établi dans la partie Sud-Est du Sarapieion (Fig. 1). Il a connu deux états successifs, avant d'être abandonné et remblayé lors de la construction de l'allée D et du portique qui borde l'esplanade méridionale du Sarapieion. La date de son abandon est ainsi approximativement établie : l'allée D est datée, par une inscription,⁹ des environs de 90 ; le portique dorique a été consacré vers 90

également et sa construction a pu commencer vers 110.¹⁰ Toutefois, la date de la construction initiale de l'autel et celle de son remaniement nous échappent : la céramique recueillie situe la construction dans le courant du II^e siècle, peut-être dans la seconde moitié, mais il est impossible d'être plus précis.

Dans son premier état, la construction est de plan rectangulaire ; elle mesure 4,70 m dans le sens Nord–Sud sur 3 m dans le sens Est–Ouest. Le deuxième état en a réduit la surface intérieure : deux murs se sont adossés contre les faces internes des murs Sud et Ouest de l'édifice qui ne mesure plus, dans le sens Est–Ouest, qu'1,60 m pour une longueur maximum de 3 m dans le sens Nord–Sud. L'affectation du premier état est une question non résolue, à moins de postuler que la transformation de son architecture n'a pas modifié sa fonction, bien établie pour le deuxième état puisqu'on a recueilli, à l'intérieur de l'enceinte, des cendres contenant des ossements et des restes végétaux. Enfin, le lien de cet autel

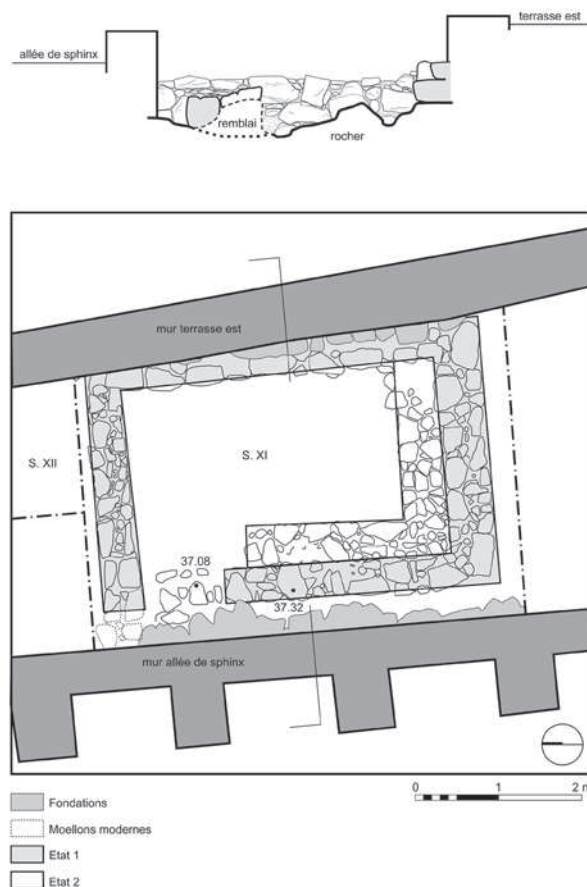


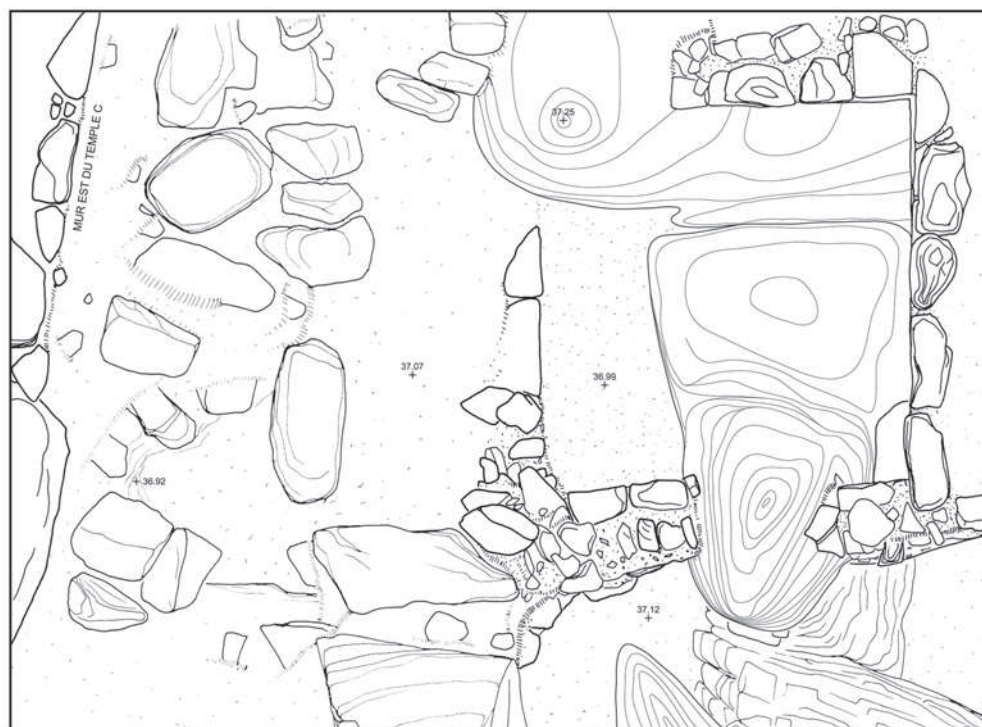
Fig. 2 (à droite). Plan et coupe des deux états de l'autel 1 après la fouille de 2004 (par Fr. Muller, architecte. © École française d'Athènes).

⁷ Yavis 1949, 203 et 213. La distinction entre les deux types n'est pas très claire.

⁸ Sur la fouille de cet autel, voir Siard 2004–2005, 914–918.

⁹ ID 2087 et ID 2088 (même texte).

¹⁰ On possède une série de chapiteaux provenant de ce portique et qui portent les mentions des sommes données par les fidèles pour la construction (ID 2165 à ID 2172). Cette souscription est datée par la mention d'un prêtre de l'année 112/1. On connaît également la dédicace de cet édifice, portée sur son architrave (ID 2039) et datée des environs de 94/3.



SONDAGE 5
Plan de l'autel et du sondage

Dessin : H. SIARD / FF. MULLER 2002

0 0,5 1,00 m

Fig. 3. Plan de l'autel 2 après la fouille de 2002 (par Fr. Muller, architecte. © École française d'Athènes).

avec le sanctuaire de Sarapis est également une question difficile, puisqu'on ignore, avant l'aménagement de l'allée D et de l'esplanade méridionale, où se situait sa limite Sud ; en conséquence, on ne peut affirmer qu'il en faisait partie. Ses similitudes avec l'autel 2 nous semblent toutefois plaider en faveur d'un rattachement de cet édifice au Sarapieion ; la proximité des pratiques sacrificielles attestées dans ces deux autels, que nous a révélée l'examen des ossements, nous paraît de nature à confirmer cette hypothèse.

L'autel 2 (Fig. 3)

L'autel 2, dégagé en 2001–2002,¹¹ est de plan carré (dimensions intérieures, dans le sens Est–Ouest : 1,47 m ; dans le sens Nord–Sud : 1,43 m). Ses murs périphériques retenant, à l'intérieur de l'enceinte, une couche de cendres et d'offrandes brûlées. Nous avons recueilli du matériel calciné jusqu'à 1,90 m à l'Ouest du mur occidental de l'enceinte : on peut donc restituer un cône de cendres relativement élevé. La

céramique contenue dans les remblais sur lesquels sont établis les murs de l'enceinte fournit un *terminus post quem* pour la construction : le matériel indique qu'elle n'est pas antérieure au dernier tiers du II^e siècle, voire au début du I^{er}. L'autel 2 est contemporain de l'allée de sphinx, de l'édifice C, de la plupart des aménagements de l'esplanade méridionale du sanctuaire qui sont datés, par l'épigraphie ou le matériel céramique, de la fin du II^e ou du début du I^{er} siècle.

Le matériel osseux contenu dans les autels

L'intérêt principal des autels 1 et 2 du Sarapieion C est qu'ils contenaient l'un et l'autre du matériel, dont une partie au moins représente le résidu de sacrifices qui y avaient été effectués. C'est le cas précisément des lots d'ossements calcinés dont nous présentons ici l'analyse. L'étude archéozoologique s'avère payante dans ce cas, puisque nous possédons deux lots distincts et comparables, provenant de contextes bien datés et bien identifiés. La qualité des échantillons est également remarquable : ils sont composés d'une très forte concentration de restes osseux. Cet ensemble de conditions favorables nous offre donc l'opportunité d'aborder le rituel du sacrifice animal dans le culte de Sarapis à Délos.

¹¹ Sur la fouille de cet autel, Siard 2002, 542–543 et Siard 2003, 505–509 ; voir aussi la présentation que j'ai donnée de cette installation dans Siard 2008, 27–38 et la publication des sceaux qui y ont été découverts dans Brun 2010, 195–221.

Composition du matériel

Ces dépôts proviennent de contextes archéologiques très homogènes et l'analyse archéozoologique peut s'appuyer sur un grand nombre de restes. En effet, la collecte du matériel, effectuée par tamisage, a permis la découverte de plus de 7500 fragments osseux. Cependant les deux échantillons sont d'une importance numérique inégale, ce qui s'explique par l'histoire de ces autels : l'autel 1 a été remblayé et ses cendres partiellement dispersées. On a ainsi dénombré 1188 fragments déterminés et 1364 fragments indéterminés dans l'autel 1 ; 1201 fragments déterminés et 3749 fragments indéterminés dans l'autel 2. Les restes du second autel—le plus tardif—sont deux fois plus nombreux que ceux de l'autel 1, mais ils sont aussi plus fragmentés, ce qui génère une quantité plus importante d'esquilles indéterminées. Le mode de formation des dépôts reste toutefois identique dans les deux cas et le taux de fragmentation des mobiliers est généralement très élevé en sorte qu'un grand nombre d'ossements n'a pu être déterminé. Ces restes non identifiés, dans leur grande majorité, proviennent d'ossements d'oiseaux, soit 93% des fragments. Les restes non identifiés appartenant à des os de mammifères ne représentent qu'une très faible part du matériel, soit seulement 7% des fragments.

Les analyses

Les ossements déterminés dans les deux dépôts ont révélé de nombreuses correspondances qui indiquent que le rituel pratiqué dans l'un et l'autre autel était sensiblement identique, en dépit de leur différence de date. Malgré un taux de fragmentation élevé, le mobilier reste très riche et nous donne l'occasion d'évoquer les différentes étapes du sacrifice opéré dans ces deux autels :

1. on peut ainsi envisager la sélection des animaux qui se manifeste dans le choix des espèces sacrifiées, des sexes et des âges ;
2. la sélection des quartiers de viande déposés en offrandes sur l'autel est également analysable ;
3. enfin le déroulement du sacrifice lui-même a laissé des traces observables sur les restes osseux.

Sélection des animaux

Les espèces sacrifiées (Fig. 4)

La première caractéristique mise en relief par l'étude de la faune porte sur la sélection des espèces sacrifiées. Les offrandes dans le rituel du Sarapieion C étaient très spécifiques et marquées par le choix d'une espèce prédominante, *Gallus domesticus* (les coqs et les poules domestiques), à laquelle étaient parfois associés les petits ruminants et les porcs. La proportion de restes d'oiseaux galliformes domestiques est très élevée dans les deux dépôts : dans le lot le plus ancien, celui de l'autel 1, les restes de volailles représentent 78% des fragments déterminés. Le matériel restant comprend des os d'ovins-caprins et de porcs. Dans le lot le plus récent, provenant de l'autel 2, la proportion de restes de coqs augmente pour atteindre 92% des fragments déterminés ; on constate toujours la présence d'ossements de petits ruminants et de porcs auxquels viennent s'ajouter des restes de pigeons, de bovins, d'un lagomorphe (probablement un lièvre), ainsi que quelques éléments de poissons.

La sélection des sexes et des âges (Fig. 5)

Le choix des victimes s'effectuait également en fonction de deux autres critères : le sexe et l'âge. Dans ce domaine, on observe quelques différences entre les deux lots. Dans le dépôt de l'autel 1, on note la présence, parmi les restes de volailles, d'animaux des deux sexes : soit 10 poules (NMI) et 4 coqs (NMI). Dans le dépôt de l'autel 2, le choix semble plus sélectif : le NMI déterminés est plus élevé et les restes d'oiseaux galliformes identifiés en fonction du sexe proviennent tous de mâles (28 animaux au total).

Aucune distinction de sexe n'a pu être réalisée pour les petits ruminants et les porcs, en revanche, il a été établi qu'il existait une sélection de l'âge des animaux. Tous les

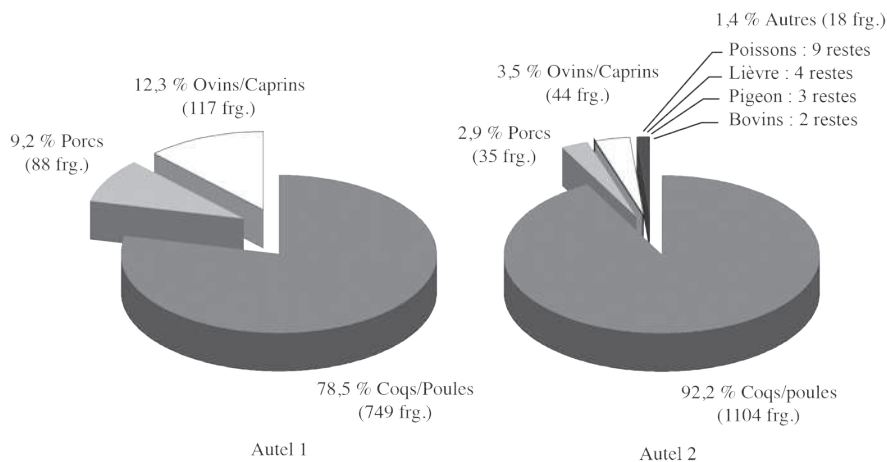


Fig. 4. Les restes d'offrandes animales dans les autels 1 et 2 : sélection des espèces.

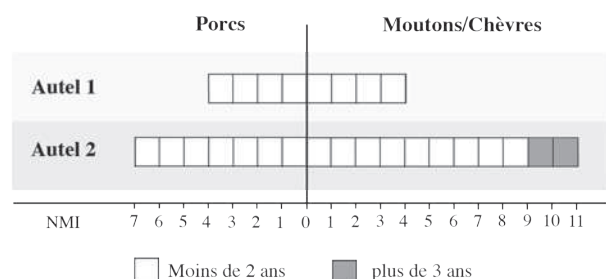


Fig. 5. La sélection des animaux : répartition du NMI en fonction de l'âge chez les mammifères.

restes d'oiseaux déterminés en fonction de l'âge provenaient d'adultes ; les restes de mammifères appartenaient quant à eux à de jeunes animaux, des porcs et des ovins-caprins âgés de moins de 24 mois au moment de l'abattage.

Sélection des quartiers

On peut envisager également la sélection des quartiers de viande dont la nature varie selon les espèces sacrifiées dans les autels.

Les coqs et les poules (Fig. 6)

S'agissant des restes de volailles, on constate que tous les segments anatomiques sont présents dans les dépôts, à l'exception de la tête. Le déficit de certains éléments, comme les vertèbres et les côtes, semble être imputable à la fragilité des restes, mais la rareté des os des têtes pourrait indiquer une décapitation avant l'exposition sur le bûcher. La découverte de tous les éléments du squelette et l'absence de trace de découpe laisse présumer que les victimes étaient déposées entières sur les foyers.

Les mammifères (Fig. 7)

Contrairement aux restes de volailles, l'analyse des ossements de mammifères confirme le démantèlement des carcasses et la constitution de portions de viande minutieusement sélectionnées avant d'être déposées sur les foyers.

Les quartiers de porcs provenaient presque exclusivement des pattes postérieures (Fig. 6). Dans l'autel 1, seules, les pattes postérieures étaient offertes, plus particulièrement les cuisses dont on retrouve les fragments de fémurs après combustion. Dans l'autel 2, on déposait occasionnellement les pattes antérieures et les têtes de porcs, mais les pattes postérieures étaient les plus nombreuses.

Le choix était presque similaire pour les quartiers de moutons et de chèvres (Fig. 7). Les offrandes étaient constituées des têtes, des jarrets et des cuisses auxquelles venaient s'ajouter les vertèbres thoraciques et les côtes. Cependant comme pour les quartiers de porcs, on note une sélection plus poussée des offrandes de l'autel 1, avec un taux de représentation des fragments de fémurs de 80%. Le rituel le plus ancien se démarquait donc par une sélection presque exclusive des cuisses.

Pour ces dernières espèces, petits ruminants et porcs, il n'a pas été possible de déterminer une sélection particulière des parties gauches ou droites, les restes étant très fragmentés et les parties diaphysaires en très faible nombre.

Déroulement du rituel

La sélection des espèces et celle des quartiers de mammifères sont les premières étapes du rituel. L'analyse des résidus provenant des deux autels apporte en outre des informations sur le déroulement du sacrifice, celui-ci s'opérait différemment en fonction de l'espèce animale.

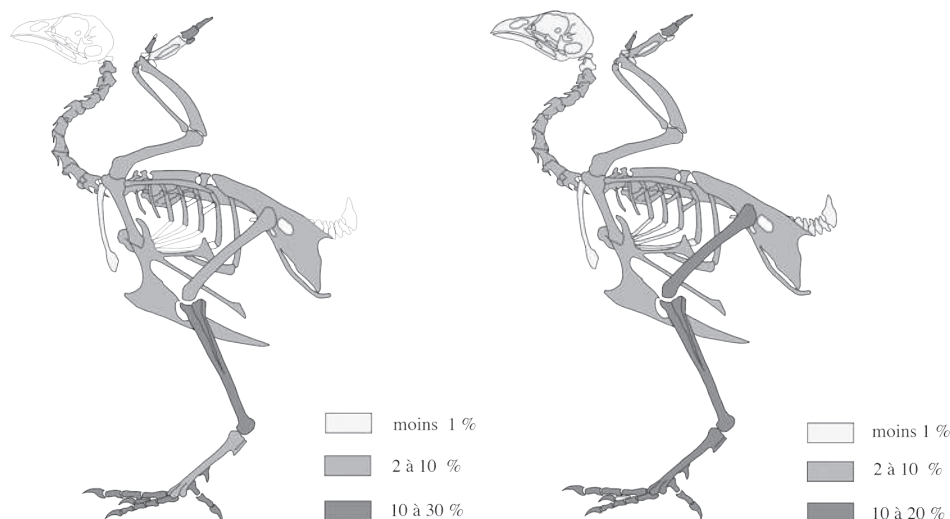


Fig. 6. Sélection des quartiers : taux de représentation des restes de coqs et de poules.

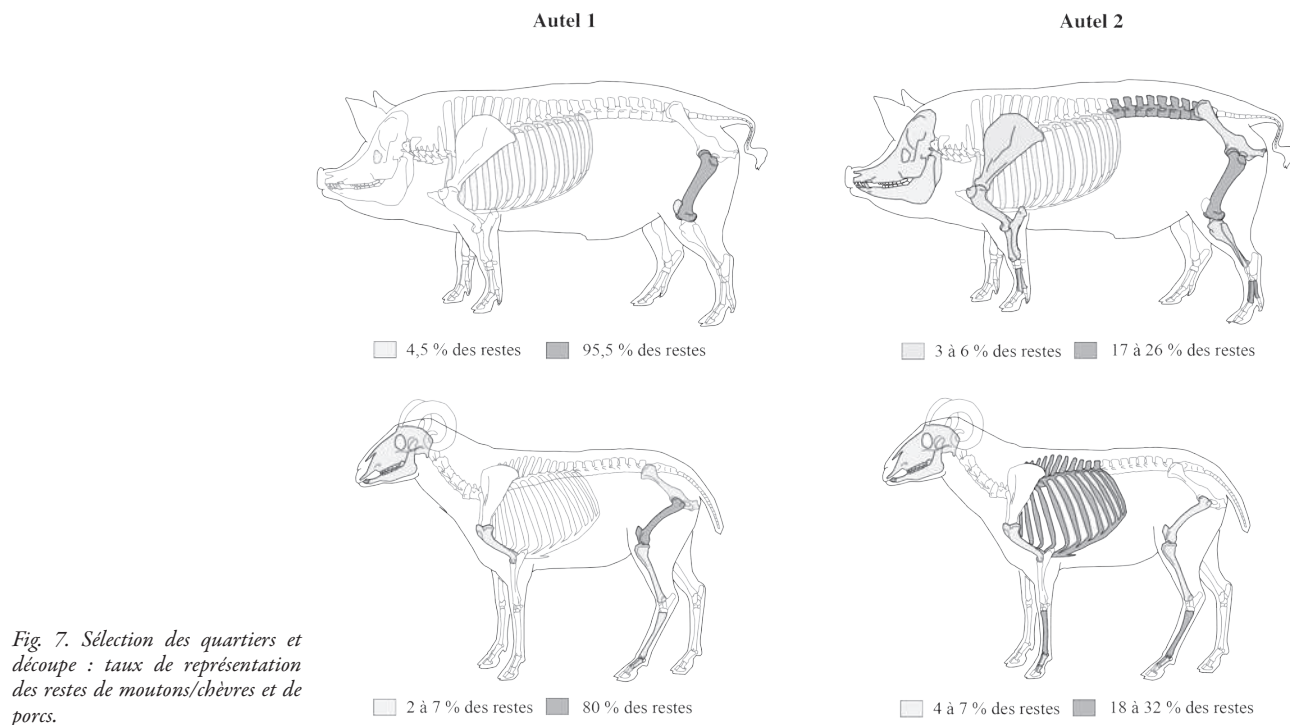


Fig. 7. Sélection des quartiers et découpe : taux de représentation des restes de moutons/chèvres et de porcs.

Nous avons vu que les différents éléments des squelettes d'oiseaux, essentiellement galliformes, étaient presque tous présents. Ils sont également presque tous porteurs de traces de carbonisation plus ou moins importantes. Ces deux éléments indiquent qu'étaient pratiqués dans ces autels des sacrifices de type holocauste :¹² des poules et des coqs entiers étaient déposés dans le foyer. Mais si le taux d'ossements ayant touchés les flammes est proche entre les deux ensembles (90 à 70% des fragments) l'intensité du feu pour de nombreuses offrandes n'a jamais été très élevée (Fig. 8).

Pour les offrandes de viande de mammifères, le rituel était différent. Le débitage et la sélection des quartiers excluent un holocauste ; les traces de carbonisation sur les os sont très fréquentes, mais on note néanmoins la présence de nombreux restes partiellement carbonisés indiquant, dans certains cas, une combustion incomplète, signe que la chair adhérerait encore aux os lorsqu'ils furent placés sur le foyer.



Fig. 8. État de conservation des restes d'oiseaux galliformes de l'autel 2.

¹² Nous utilisons ce terme d'« holocauste », peu courant dans les textes antiques, dans son acception la plus ordinaire en histoire des religions : les animaux sont entièrement brûlés pour le dieu et ne sont pas consommés par les fidèles. Sur ce terme et sa rareté dans les textes grecs, voir Rudhardt 1992, 286–287 ; sur les « sacrifices de destruction » voir Ekroth 2002, 170–171.

Interprétation des vestiges osseux : l'analyse des pratiques sacrificielles

Comparaison entre les deux autels du Sarapieion C

L'étude archéozoologique apporte un éclairage pertinent sur trois points : le choix des espèces sacrifiées, la sélection des quartiers et la nature de rituel ; elle permet donc d'établir la présence, dans le Sarapieion C, d'un rituel bien défini, avec des caractères récurrents, puisque les deux dépôts présentent de nombreux traits communs. On peut cependant affiner l'interprétation de ces résultats en comparant précisément les deux dépôts. La comparaison possible entre deux ensembles de restes, quasi-contemporains, qui proviennent du même contexte—le même sanctuaire—et des mêmes types d'autels—des « autels-foyers »—représente une chance assez rare qui permet de faire apparaître des variantes dans le déroulement du rituel : elles concernent la sélection des espèces et celle des quartiers de mammifères déposés sur le foyer.

Les espèces

Dans l'autel 1, le plus ancien, les restes de mammifères représentent 21% du matériel, ils ne sont plus que 6% dans l'autel 2, une modification qui semble aller dans le sens d'une sélection un peu plus poussée de l'espèce préférentiellement sacrifiée. Parallèlement, on note également une plus forte proportion d'ossements de poules dans le lot du premier autel, ces résultats sont cependant à prendre avec précaution en raison du faible nombre minimum d'individus obtenus.

Les quartiers

Le mode de sacrifice pour chaque espèce reste le même dans chacun des deux autels : les oiseaux étaient déposés entiers sur le foyer, tandis que l'on choisissait uniquement quelques quartiers de porcs ou d'ovins-caprins pour le sacrifice. Cependant, alors que la viande de mammifères devenait moins fréquente dans le rituel, on observe un assouplissement dans les règles de sélection des quartiers : les pattes postérieures ne sont plus exclusivement choisies.

Déroulement du rituel

S'agissant des modes de combustion de l'animal, le constat reste le même : dans l'autel 1 comme dans l'autel 2, la pratique sacrificielle diffère selon l'espèce considérée. De ce point de vue, les deux lots apportent rigoureusement les mêmes informations. Les poules et les coqs sont entièrement brûlés pour les dieux ; les mammifères sont déposés par quartiers et découpés avant d'être partiellement consacrés.

Bilan et synthèse

Explication historique de la diversité des pratiques sacrificielles

Il peut être séduisant d'expliquer les différences constatées entre les deux dépôts en considérant la date des autels dont ils proviennent : nous avons vu que l'autel 1 avait été détruit et remblayé alors que l'autel 2 était mis en service, même si les deux événements ne sont pas nécessairement dans une relation de cause à effet. Toutefois, l'intervalle de temps qui sépare les deux constructions n'est pas très long : la date probable du premier état de l'autel 1, d'après les indications fournies par le matériel céramique, se situe dans la seconde moitié du II^e siècle ; celle de l'autel 2 s'établit vers le dernier tiers du II^e siècle ou au début du I^{er}.

Une différence de date, qu'elle soit minime ou considérable, n'implique pas nécessairement un changement de la pratique sacrificielle ; celle-ci peut aussi bien résulter de modifications de la liturgie, d'un changement de la sociologie des fidèles, d'une évolution dans le panthéon du sanctuaire, etc. Aucune de ces hypothèses ne peut véritablement être raisonnée et chacune pourrait rendre compte des différences constatées dans les dépôts osseux des autels du Sarapieion C. Faute de texte, il nous paraît illusoire de proposer une explication définitive.

En dépit de l'obscurité de la situation historique précise qui justifierait les différences constatées entre les deux autels, celles-ci nous paraissent toutefois imposer deux constats qui intéressent l'analyse des autels eux-mêmes et, plus généralement, celle du rapport entre une divinité donnée et une pratique votive particulière.

Pratiques sacrificielles diverses dans les mêmes autels

L'« autel-foyer » est tenu ordinairement pour un autel à holocauste.¹³ Or, l'exemple du Sarapieion C invite à nuancer cette proposition : c'est plutôt semble-t-il ici le type d'animal offert qui commande le mode de consécration et non *stricto sensu* la nature de l'autel. Les mammifères sont découpés ; les oiseaux consommés entiers, peut-être après décapitation. Ces différences peuvent se justifier de bien des façons : on peut leur chercher des explications religieuses ou symboliques. Il nous paraît que deux motifs plus prosaïques peuvent aussi expliquer ces traitements différenciés :

- la dimension réduite des foyers ne facilite pas la combustion d'un mouton entier ou d'un cochon ;

¹³ Sur ces associations entre « autel-foyer » ou « autel-croix » et holocauste, voir Jost 1992, 88, mais aussi Yavis 1949, 202 et 213.

- ♦ le prix élevé d'un mammifère explique sans doute la relative parcimonie avec laquelle on en distribue la viande aux dieux.

Il est intéressant de constater que le mode de consécration des victimes s'adapte au cas par cas et n'obéit pas à une règle générale qui voudrait qu'à un type d'autel spécifique corresponde un mode particulier de sacrifice. En tout état de cause, qu'ils soient offerts entiers ou en quartiers, les animaux déposés dans l'autel n'étaient pas consommés par les fidèles. On ne peut donc parler *stricto sensu* d'holocauste, puisque l'animal n'est pas toujours consommé dans sa totalité ; toutefois, c'est un sacrifice impliquant la destruction complète de l'offrande, qu'elle représente un animal entier ou un quartier de viande.

Pratiques sacrificielles diverses pour des mêmes dieux

Nous ne savons pas précisément à quels dieux étaient destinés les sacrifices effectués dans ces autels du Sarapieion C : plusieurs divinités étaient probablement concernées, sans doute au moins la triade principale du Sarapieion C, Sarapis, Isis et Anubis. Mais comme le précisent de nombreuses inscriptions, beaucoup de dieux sont *symboloi* de Sarapis, Isis et Anubis et la liste en est sans cesse modifiable.¹⁴ Il est dès lors frappant de constater que les animaux qui étaient offerts à ces dieux varient d'un sacrifice à l'autre, sans doute donc d'un fidèle à l'autre puisque dans le même autel sont consacrés des quartiers de petits mammifères et des oiseaux entiers ; à moins que des circonstances particulières de l'offrande ne commandent le type d'animal à consacrer et la manière de le faire, comme le suggérait G. Ekroth¹⁵ : cette solution nous paraît également envisageable dans le Sarapieion C, car elle rendrait assez bien compte des divergences que l'on constate

entre les deux autels, mais aussi de la particularité des assemblages qu'on y rencontre.

Comparaison avec d'autres dépôts provenant de sanctuaires orientaux

Il est possible également de comparer les dépôts du Sarapieion C avec des lots d'ossements qui présentent des modes de combustion identiques ou des assemblages similaires à ceux relevés à Délos. Les holocaustes sont rarement démontrés par les analyses de faunes ; les parallèles connus sont rares et proviennent de lots issus de sanctuaires de dieux orientaux d'époque impériale : nous examinerons plus particulièrement deux dépôts provenant de sanctuaires d'Isis datés du Haut Empire (fin Ier/IIe siècle de notre ère) et les dépôts associés à des sanctuaires de Mithra, eux-aussi de l'époque impériale. Ces comparaisons permettent d'enrichir l'analyse des dépôts déliens tout en manifestant leur singularité.

Les sanctuaires isiaques de Belo et Mayence

Dans le sanctuaire d'Isis situé à Belo, en Espagne a été découvert un dépôt sacrificiel.¹⁶ Il se compose majoritairement d'ossements de poulets (74% des restes) mais également de quelques os d'oies domestiques et d'un seul reste de mammifère : un ossement de bovin. Les similitudes sont frappantes (Fig. 9) : une forte dominante d'oiseaux et, à l'instar du Sarapieion C de Délos, tous les éléments du squelette sont représentés, avec une répartition différentielle conditionnée par la fragilité des ossements. Les animaux étaient offerts entiers, à l'exception de la tête : les oiseaux étaient probable-

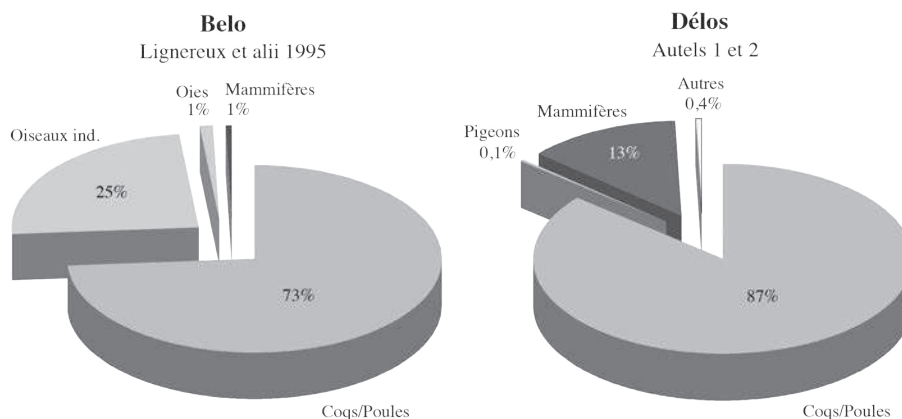


Fig. 9. Les offrandes dans les cultes isiaques du Haut Empire (fin Ier/IIe siècle apr. J.-C.) : l'exemple de Belo (Espagne).

¹⁴ ID 2128, ID 2131 ou ID 2146 par exemple pour cet adjectif.

¹⁵ Ekroth 2002, 341.

¹⁶ Pour l'étude de ce dépôt voir Lignereux *et al.* 1995, 575–582 et Dardaine *et al.* 2008, Annexe 2, 231–234.

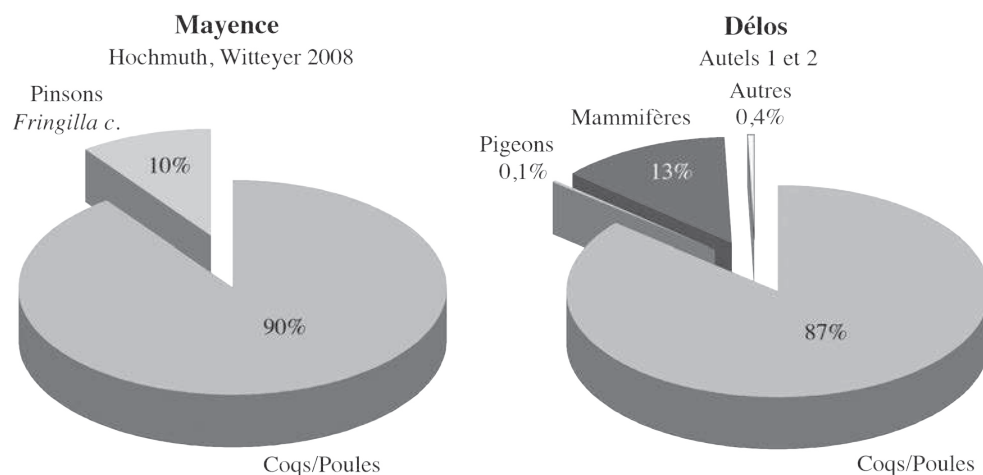


Fig. 10. Les offrandes dans les cultes isiaques du Haut Empire (fin I^{er}/II^e siècle apr. J.-C.) : l'exemple de Mayence (Allemagne).

ment décapités avant la crémation. Le matériel découvert dans ce sanctuaire se distingue néanmoins du lot découvert au Sarapieion C par l'omniprésence des oiseaux et l'extrême rareté des os de mammifères.

Dans le sanctuaire d'Isis et de Magna Mater à Mayence¹⁷ ont été reconnues deux catégories distinctes de dépôts (Fig. 10) : d'une part, des comblements de fosses contenant des ossements non carbonisés qui correspondraient à des restes de banquets ; d'autre part, des résidus d'offrandes carbonisés qui étaient soit laissés en place, dans les foyers, soit retirés et déposés dans des fosses spécifiques avec les cendres du foyer. Dans les fosses destinées à recevoir les résidus des bûchers se trouvaient des amas d'ossements carbonisés, composés majoritairement d'ossements d'oiseaux galliformes (à 90%) et de quelques restes d'oiseaux passereaux (des pinsons). L'analyse du matériel indique des sacrifices d'animaux entiers, majoritairement des coqs mâles et adultes. Les mammifères sont absents de ces derniers ensembles, mais ils sont présents dans les dépotoirs des banquets, où l'on retrouve mêlés des ossements d'oiseaux (poulets et oies), de bovins, de porcs ainsi que des œufs et des restes de poissons.

Les études de matériels osseux découverts dans les sanctuaires isiaques restent rares à ce jour, mais les confrontations avec les données provenant du Sarapieion C de Délos mettent en avant la spécificité de celui-ci : à Mayence et à Belo, les animaux étaient entièrement brûlés, comme dans le Sarapieion C ; toutefois, les assemblages sont assez différents : dans ces deux sanctuaires d'Isis, les oiseaux étaient seuls (ou quasi exclusivement seuls) sacrifiés, ce qui n'est pas le cas dans

le Sarapieion C. De plus, on l'a dit, dans le Sarapieion C, seuls les oiseaux étaient sacrifiés selon le rite holocaustique et non les mammifères.

Les sanctuaires de Mithra

Un autre culte oriental paraît se rapprocher, par la composition de ses assemblages fauniques, de celui de Délos : le culte de Mithra (Fig. 11). Dans presque tous les lots de faunes connus et avérés en relation avec des Mithraea du monde romain,¹⁸ on trouve une très forte proportion d'ossements d'oiseaux et de poules domestiques (la moitié, voire parfois les trois quarts du matériel), auxquels sont associés des os de suidés (un tiers en moyenne des fragments identifiés). Une autre correspondance a été constatée entre les deux cultes : parmi les restes de gallinacés, ceux de coqs sont majoritaires comme dans les assemblages de l'autel 1 du Sarapieion C.

Une différence d'importance est cependant à relever : les restes découverts dans les sanctuaires consacrés à Mithra sont des déchets de consommation de banquets donnés à l'occasion de la célébration du culte et non des animaux offerts à la divinité en holocauste. Ainsi, la comparaison avec les dépôts du Sarapieion C trouve-t-elle sa limite, puisqu'on peut tenir pour caractéristique des sacrifices qui étaient effectués dans nos deux autels est la destruction de la victime, s'agissant des poules et des coqs au moins ; mais, même les quartiers de viande de divers mammifères qui y étaient déposés n'étaient, on l'a vu, pas destinés à la consommation.

¹⁷ Sur ce dépôt, voir Hochmuth & Witteyer 2008, 119–123.

¹⁸ Olive 2008, 267–272; Caillat & Gaidon-Bunuel 2008, 255–266.

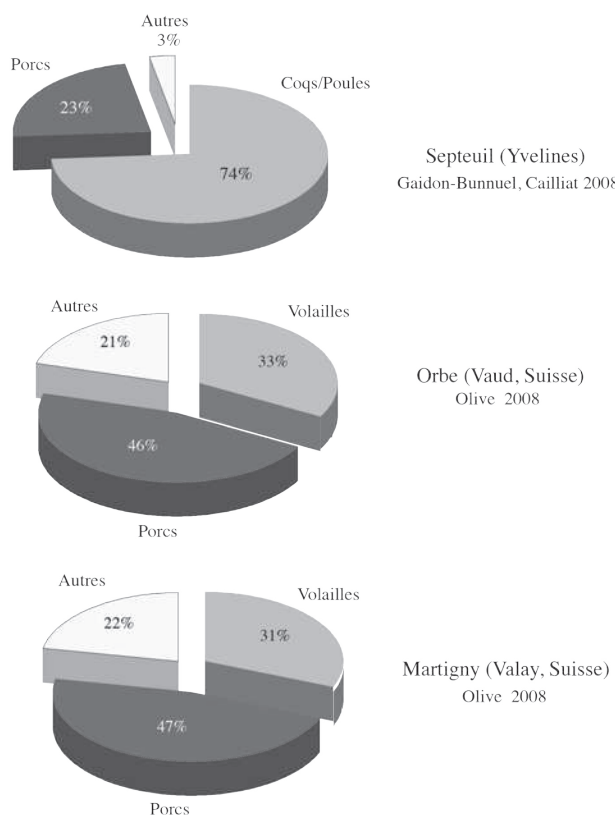


Fig. 11. Reliefs de banquets dans quelques Mithraea des III^e et IV^e siècles apr. J.-C.

Bilan et synthèse

Un « sacrifice isiaque » ?

Les comparaisons restent donc toujours partielles entre les dépôts du Sarapieion C et ceux qui proviennent d'autres sanctuaires orientaux, isiaques ou mithraïques. Dans le cas des sanctuaires d'Isis, il manque aux assemblages les restes de mammifères pour ressembler à ceux de Délos ; dans le cas des sanctuaires de Mithra, c'est le mode de combustion qui diffère et la raison d'être du sacrifice : il s'agit clairement dans ce cas de résidus de sacrifices de consommation, ce que ne sont pas ceux des deux autels du Sarapieion C. Les différences constatées avec les pratiques sacrificielles qui ont cours dans d'autres sanctuaires orientaux, dans les sanctuaires isiaques en particulier, méritent d'être soulignées car elles invitent à s'interroger sur l'existence éventuelle d'une communauté de pratiques attachées au culte d'un même dieu ou d'une même famille de dieux—les divinités du cercle isiaque—, communauté souvent mise en avant par les spécialistes du culte d'Isis, plus enclins à souligner les points communs entre les sanc-

tuaires que les divergences réelles et parfois très profondes que l'on peut y relever.¹⁹

On peut imputer une partie des différences à la spécificité du contexte où ont été découverts les ossements : les sanctuaires de Belo et de Mayence sont implantés en Occident et datent de l'époque impériale, tandis que le sanctuaire de Délos est en Orient et remonte à la période hellénistique. Il se peut naturellement que les rituels aient changé d'une époque et d'une aire culturelle à l'autre. Néanmoins, les différences doivent alerter sur la tentation qu'il y aurait à considérer qu'il existe des règles spécifiques aux sacrifices « isiaques » : l'exemple de Délos au contraire semble confirmer l'absence de norme dans le domaine du sacrifice, y compris au sein d'un même sanctuaire, puisque même entre nos deux autels les pratiques fluctuent. Tout le problème reste cependant d'interpréter correctement ces variantes et de savoir dans quelles mesures elles sont pertinentes.

Des oiseaux pour Isis ?

Puisque nous constatons ces variantes dans la manière de célébrer le culte des dieux isiaques à l'époque hellénistique dans le sanctuaire de Délos, nous devons également nous interroger sur la question de l'association d'un animal particulier à une divinité précise. En l'occurrence, il pourrait être tentant d'inférer de la présence majoritaire de restes de coqs dans les autels du Sarapieion C que les sacrifices qui y étaient effectués s'adressaient à Isis, surtout si l'on compare ces dépôts avec ceux d'autres Iseia ou si l'on se fonde sur les textes. En effet, dans la publication du matériel osseux provenant du sanctuaire de Belo,²⁰ les auteurs considèrent cet animal comme spécifiquement destiné à la déesse : ils font remonter cette tradition à l'époque pharaonique et s'appuient sur un texte d'Hérodote.²¹ Selon eux, le poulet, le coq et la poule domestique ont remplacé l'oie en Occident, dans des régions où celle-ci était rare. De la sorte, l'espèce *Gallus domesticus*, substitut commode de l'oie égyptienne, serait une manière d'occidentalisation ou de romanisation du rituel, mais en tant que telle elle resterait attachée à la déesse Isis. Le caractère isiaque des sacrifices d'oiseaux, et spécifiquement d'oie ou de volailles, est également reconnu par Fr. Dunand²² qui s'appuie sur des textes :

¹⁹ Ainsi, les tenants d'une « religiosité » isiaque, qui insistent sur les traits communs de la pratique cultuelle des fidèles des dieux isiaques, dans des domaines divers mais dont le sacrifice n'est pas exclu. Voir par exemple Dunand 1973, vol. 3, 253 : « Il ne semble pas qu'on puisse déceler des changements notables dans la célébration du culte et des fêtes, entre l'époque hellénistique et l'époque impériale ; les mêmes pratiques restent en vigueur et cela n'a rien de surprenant : (...) le rituel égyptien se caractérise par son immuabilité. »

²⁰ Voir Dardaine *et al.* 2008, Annexe II, 233–234.

²¹ Hdt. 2.37.

²² Dunand 1973, vol. 3, 205.

elle cite Hérodote, pour l'époque pharaonique surtout, puis des auteurs d'époque impériale, Aelius Aristide²³ ou encore Juvénal.²⁴ Qu'Isis, à l'époque impériale romaine, manifeste une préférence certaine pour les oiseaux et que cette préférence ait imposé une unification des rituels dans l'ensemble de ses sanctuaires nous paraît possible, mais reste cependant à démontrer.²⁵ En tout état de cause, nous doutons qu'une telle interprétation des sacrifices du Sarapieion C soit recevable, pour plusieurs raisons :

- Dans les autels du Sarapieion C, les oiseaux (coqs et/ou poules) sont majoritaires, mais ils se mêlent à des mammifères divers. On peut donc se demander si l'oiseau a ici véritablement un caractère « isiaque », en d'autres termes si sa présence constitue effectivement un trait distinctif du culte d'Isis.
- Dans le Sarapieion de Délos, le panthéon est assez bien connu.²⁶ Sarapis tient ici le premier rôle : la majeure partie des dédicaces du sanctuaire est adressée à une triade composée de Sarapis, Isis et Anubis. La déesse Isis est toujours évoquée en deuxième position. Certaines consécration lui sont adressées plus particulièrement, bien entendu, mais elle ne joue pas le rôle de premier plan qui est le sien dans d'autres sanctuaires, à Erétrie par exemple,²⁷ ou, pour l'époque impériale dans le sanctuaire de Belo.²⁸

Rien n'assure donc que les sacrifices pratiqués dans les deux autels du Sarapieion délien aient été adressés à Isis, plutôt qu'à d'autres dieux du sanctuaire—et pourquoi pas, nous l'avons dit, à plusieurs à la fois—ni qu'il faille en conséquence établir un lien entre ces oiseaux et la déesse. Précisons d'emblée que ces conclusions s'appuient sur l'exemple délien qui est lui-même isolé : à notre connaissance, aucun autre sanctuaire isiaque du monde grec d'époque hellénistique n'a livré de matériel sacrificiel et les parallèles nous font donc entièrement défaut. Seules les comparaisons internes sont donc possibles, mais l'on a vu qu'elles étaient par elles-mêmes assez éclairantes. Ce que l'on connaît des sacrifices d'oiseaux dans le monde grec montre en tout cas qu'il est impossible de manifester un lien exclusif entre Isis et les coqs ou les poules. On connaît bien d'autres dieux, à commencer par Asclépios, qui reçoivent de telles offrandes.

Conclusion

L'étude archéozoologique des ossements provenant du Sarapieion C éclaire d'un jour nouveau les cultes rendus aux divinités du cercle isiaque dans ce sanctuaire délien. L'examen direct des vestiges sacrificiels invite à renouveler les approches de ces rituels ; certes, il ne permet pas toujours d'apporter positivement des solutions aux problèmes posés, mais il contribue du moins à écarter les propositions les moins convaincantes. Il invite également à s'attacher aux aspects pratiques du sacrifice : le rituel apparaît comme un acte concret, un ensemble de gestes techniques, qui consiste à découper, mettre à mort puis consumer des animaux. Il est possible, par ce biais, de relativiser certaines propositions : ainsi, le choix de l'animal sacrifié, nous l'avons dit, nous paraît dépendre autant de contraintes techniques, telles que la dimension des foyers des autels, que de prescriptions religieuses ou sans doute aussi de choix économiques des fidèles et n'être pas entièrement à mettre au compte d'une détermination religieuse. Non que nous niions l'intérêt de l'étude « religieuse » du sacrifice qui manifeste les intentions des fidèles ou la signification du rituel, en particulier dans le cas des holocaustes, simplement les données analysées—les ossements animaux—ne se prêtent pas, en elles-mêmes, à une approche de ce genre.

Nous espérons enfin avoir pu faire la démonstration de l'intérêt d'une approche « pluridisciplinaire » du sacrifice : la collaboration archéologue-archéozoologue est la meilleure manière, selon nous, de progresser dans ce domaine. Les analyses d'ossements s'enrichissent des questions qu'en archéologue on se pose ; les questions archéologiques se nourrissent des réponses de l'archéozoologue ; et c'est ainsi que notre réflexion se développe et se nourrit du travail de l'autre.

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²³ *Sacra Oratio*, 3,45–50.

²⁴ Juv. 6,540–541.

²⁵ Encore que, même pour cette période, certains émettent des doutes sur le caractère normé du sacrifice isiaque : ainsi, Van Andringa 2009, 163–164.

²⁶ Roussel 1915–1916, 273–280 et part. 279.

²⁷ Sur le sanctuaire d'Isis à Erétrie, voir Bruneau 1975.

²⁸ Dardaine *et al.* 2008 pour la publication générale de ce sanctuaire.

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Thesmophoriazousai

Mytilenean women and their secret rites

Abstract*

During the 1984–1994 excavations on the acropolis in Mytilene, a sanctuary devoted to Demeter from the Late Archaic to the Early Hellenistic period was discovered. A series of five or more altars to the east of the site was excavated, producing approximately 5,000 animal bones. The bones of young sheep, goat and pigs predominated, in contrast with other contemporary Demeter sanctuaries in the Greek world which have yielded a characteristic predominance of pig bones. The sanctuary in Mytilene also produced figurines of Kybele, Isis, Aphrodite and Eros, reflecting the polytheistic nature of this place of worship. These different associations may provide the reason for the high percentage of bovid bones from this sanctuary. A circular ash pit at the western end of the row of altars was found filled with calcined bones of perinatal piglets. The exclusive sacrifice of piglets, particularly in this sanctuary context, is reminiscent of Thesmophoric ritual. Ancient testimonia of the rites of the Thesmophoria are examined in this paper, and compared to the faunal evidence in order to reconstruct the ancient ritual that took place on the acropolis in Mytilene. Special attention is paid to the timing of the placement of the piglets in the *megara* prior to their offering on the altar.

Introduction

“If you are here, you will be queen of everything that lives and moves about; you will have the greatest *timai* in the company of the immortals. Those who violate *dikē* will get punishment for all days to come—those who do not supplicate your *me-*

nos with sacrifice, performing the rituals in a reverent way, executing perfectly the offerings that are due.”¹

Thus spoke Hades enticingly to Persephone, who in turn seemed placated from her forceful abduction and captivity with the promise of *timai*: “And high-minded Persephone rejoiced. Swiftly she set out, with joy. But he [Hādēs] gave her, stealthily, the honey-sweet berry of the pomegranate to eat, peering around him. He did not want her to stay for all time over there, at the side of her honourable mother, the one with the dark robe.”²

The immortals of ancient Greece have been portrayed in many instances as taking their tribute very seriously, and accordingly ancient Greeks must have been disciplined in their rituals and sacred rites. Archaeological evidence can be cryptic, however, when attempting to decipher ancient ritual from cultural remains, so the archaeologist will regularly marry archaeological findings with ancient textual evidence. The hope is that by combining two sources of information, the interpretation of the archaeological evidence will be facilitated, and thus the reconstruction of a more compelling picture of ancient life will be successful. The irony is that the textual evidence also requires interpretation, from translation of the text to the comprehension of the intended meaning. Therefore using one source of ambiguous information to support another can prove fallacious.

A similar research problem arose during the interpretation of the faunal remains from the Demeter sanctuary in Mytilene, specifically with regard to the excavation of thousands of piglet remains in a sacrificial pit. These remains in the context of a Demeter sanctuary are reminiscent of Thesmophoric ritual, although the details of the rites performed during this autumn festival were shrouded in secrecy and largely undocumented. Interpretation of the remains, therefore, requires a

* I wish to thank Professor Hector Williams, director of Mytilene Excavations, for the opportunity to study and publish the faunal material from the acropolis. I am grateful to David Reese who furnished me with his lists of fauna studied from the first five years of excavation, and to Gunnel Ekroth and Jenny Wallensten who invited me to participate in this interesting and useful conference. I am obliged to Sherry Fox and the Wiener Laboratory at the American School of Classical Studies at Athens for workspace and logistical support during the writing of this paper. I am indebted to Gunnel Ekroth who read a draft of this paper and provided helpful comments and references.

¹ *Hymn. Hom. Cer.* 364–369, translated by Gregory Nagy (2000).

² *Hymn. Hom. Cer.* 370–374.

certain amount of extrapolation from the information given in the ancient sources, aided by the opinions of scholars who have studied either ancient texts referring to the Thesmophoria or archaeological remains from other Demeter sanctuaries. The specific question addressed in this paper is to determine whether there is a connection between the piglet remains in Mytilene and Thesmophoric ritual. To facilitate this objective, a faunal report of the remains from significant contexts in the sanctuary is provided.

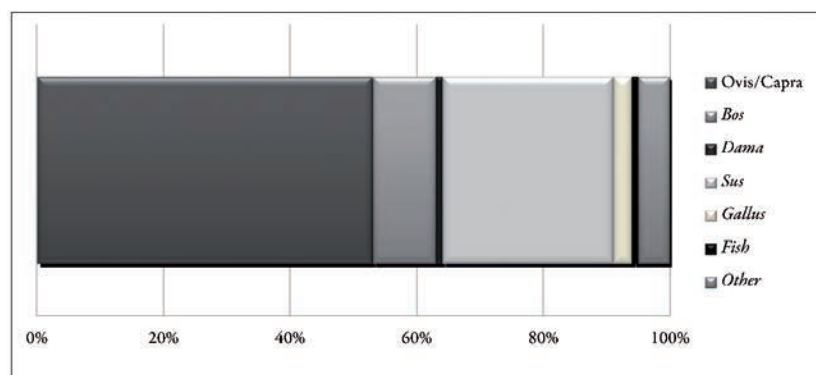


Fig. 1. Summary of fauna from the Archaic–Hellenistic periods from the acropolis site, Mytilene.

Excavations on the acropolis of Mytilene

One of the many tools for aiding in the interpretation of sacrificial activities is the study of faunal material excavated from “sacred sites”. One such site was excavated on the acropolis of Mytilene. Excavations by the University of British Columbia under the directorship of Hector and Caroline Williams were carried out between 1984 and 1994, supported by the Canadian Institute in Greece and the 10th Ephoreia of Classical and Prehistoric Antiquities. The site is located in Mytilene, the principal town on the island of Lesbos, approximately 18 km off the coast of Turkey, and 360 km from the Greek mainland. The town of Mytilene is built up against green hills; much of the interior of the island is similarly green and mountainous. The rich flora of Lesbos has earned it the title “το πράσινο νησί” or the Green Island, and the island is home to many indigenous animals, some quite rare. The acropolis of Mytilene is crowned by a Byzantine castle and fortress walls built in the 14th century AD during the Gattelusi dynasty. It was later reinforced and its interior was continually remodelled by the Ottoman Turks, and it is still one of the largest fortresses in the Mediterranean basin.

Over 60 trenches were excavated within the fortress, recovering a mass of bone and shell material from Archaic, Classical, Hellenistic, Roman, Byzantine and Ottoman levels. Over 40,000 bones were recovered from excavations on the acropolis, revealing information about dietary change throughout the ages of occupation in Mytilene.³ The focus of this study concentrates on the bones from the Archaic through to the Hellenistic period because a sanctuary de-

voted to Demeter and Kore dating to these periods was discovered.

The architectural remains from this period were severely disturbed by later occupation of the site, particularly by Roman destruction of the sanctuary in 84 BC, and by intensive construction of later buildings during the Ottoman period. Some interesting faunal specimens from the Archaic to Hellenistic levels will be presented here,⁴ and an attempt will be made to attribute their presence in the sanctuary to ritual behaviour related to the worship of Demeter.

Approximately 5,000 bone fragments were recovered from the Archaic to the Hellenistic period. Ceramic evidence suggests that the sanctuary had its origin in the late Archaic period, and ended with the Roman occupation of Mytilene in 84 BC. The destruction of the sanctuary left a thick layer of levelling dump over the Hellenistic remains. The height of activity in the sanctuary seems to have been during the late Classical and early Hellenistic periods, thus most of the archaeological material related to its use comes from these strata. The fauna from the excavated areas of the site at these levels are summarized in the chart in *Figure 1*.

The faunal remains from the sanctuary

The ca. 5,000 faunal remains from the Archaic to Hellenistic levels of the sanctuary, in general, were poorly preserved and heavily fragmented owing to their age, soil acidity, and consecutive construction activities at the site. Domesticated sheep and goat comprised over 50% of the assemblage; there appears to be a predominance of sheep remains over goat, at

³ The preliminary report on the fauna from the excavations on the acropolis has been published elsewhere, see Ruscillo 1993, 201–210.

⁴ The full report of the fauna will appear in the forthcoming volume of excavations on the acropolis of Mytilene (Williams, pers. comm.).

a ratio of about 2:1 based on the bones that could be distinguished between the two species. Pig represents about 30% of the faunal assemblage.⁵ Cattle remains represent 10% of the faunal assemblage, but it should be kept in mind that a single cow or bull could provide more than five times the meat than a single sheep or pig. Fallow deer occurred occasionally in the assemblage but was generally rare (1%) suggesting that worshippers exploited mostly domesticated species for sacrificing or feasting. Sheep, goat or pig were also considerably more accessible and cheaper for diners and worshippers, as revealed in the Athenian law code of Nikomachos and other inscriptions from Attica governing sacrificial offerings.⁶ Avian and fish remains were few, likely due to lack of flotation and sieving, as well as poor preservation as these remains are fragile in nature. The category entitled "Other" (1%) includes reptile, hare, dog, hedgehog, cat and other avian remains, which were underrepresented in the assemblage and therefore cannot be commented on in a meaningful way. Species such as lizards and hedgehogs are likely intrusive in the assemblage rather than culturally deposited. Shells were surprisingly scarce considering the town is surrounded by the sea, and shell usually preserves quite well. Molluscs are not known to be common offerings to Demeter, however shell consumed at the site may be buried elsewhere in unexcavated areas. Notably, 43% of the entire faunal assemblage from the period of sanctuary use was recovered from a few trenches excavated to the west of the site, located by the modern Turkish landmark, the *medresse* or Islamic theological school. The concentration of bone from the late Classical/early Hellenistic levels from this locale, along with broken pottery, hundreds of terracotta lamps, and figurines, suggests that this area was part of

the dumping ground of the sanctuary. The plethora of lamps also suggests that many of the rites at the sanctuary were nocturnal.⁷

The architectural remains of the sanctuary occur in the area most intensely excavated, just to the north of the modern Turkish mosque. This area covers some 600 square metres.

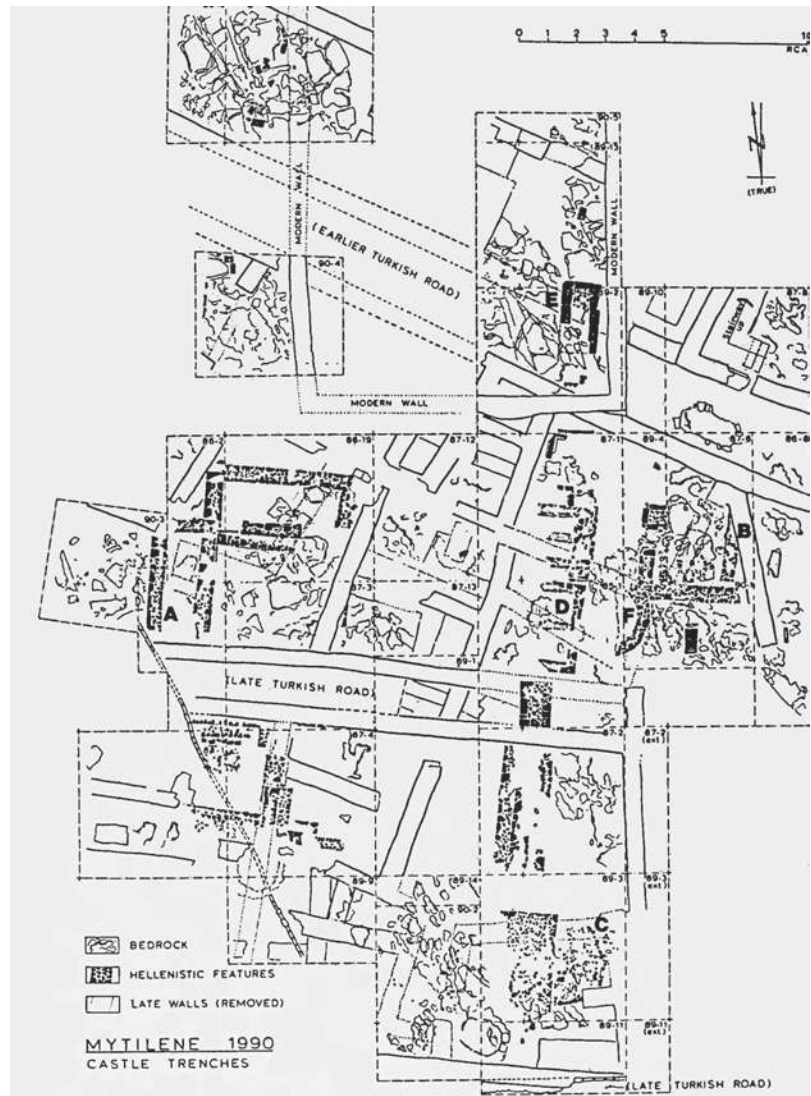


Fig. 2. Plan of excavations of the Demeter sanctuary in Mytilene at the end of the 1990 season. After Williams 1991, 177.

⁵ While the majority of the suid remains are from domesticated breeds, the recovery of a few large male tusks suggests that wild boar lived in the lush forests of the island and was hunted occasionally. Payne and Bull's measurement system (1998) for distinguishing between wild and domesticated pigs could not be implemented in this study due to the fragmentary nature of the material.

⁶ See van Straten 1995, 176 for comparative prices of victims. Piglets cost three drachmai apiece, lambs four, and kids five. A calf cost 25 drachmai, and adult individuals were at least three to eight times the cost of juvenile individuals. See also Jameson 1988, 91 for comparative costs.

⁷ See Williams 1994 for lamps used for nocturnal rituals on the acropolis; a lamp study is forthcoming (H. Williams, pers. comm.). I would like to thank Rebecca Montague for the suggestion that the lamps may have assisted in rituals within a dark, poorly-lit sanctuary.

The plan in *Figure 2* shows the site overlain by walls and roads from the Ottoman occupation (shown here in outline, while the Classical/Hellenistic architectural remains are shown in black); this plan was made *after* some Ottoman walls were removed. The remains of the sanctuary are scant and difficult to interpret. Presumably there was a temple associated with the sanctuary, but although pieces of temple architecture have been found, the temple itself has remained elusive. A temple may underlay the area where later a Byzantine church was built, which was then itself replaced by a mosque.⁸

The plan in *Figure 2* shows a row of five or more altars running north to south, part of a circular or semi-circular pit or altar, and a mess of walls that represent two or three phases of sanctuary construction. Reconstructing walls and structures that are contemporaneous with each other via the stratigraphy, masonry, and pottery is a difficult task. The Classical/Hellenistic walls to the west of the altars have a fair amount of contemporary bone material associated with them. The faunal remains represent edible species, mainly bovids (including cattle, sheep, goat), and suids; some exhibit butchering marks. While the assemblage does not have the quantity to be called a dump, the scattered remains could be interpreted as the debris from meal consumption. This area of the sanctuary could have contained dining rooms, like those found at other sanctuary sites. Remains of stone-built benches may be preserved in the south-west area of this building, like those excavated from the dining rooms in the Demeter sanctuary at Corinth.⁹

Other interesting specimens were also recovered from this area. Several astragaloi were found (*Fig. 3*), all of them polished from handling, and some of them pierced through the centre, presumably for lacing together for transport and storage. Astragaloi are still used in some societies as gaming pieces, and have been used in games for millennia. Many Greeks born before the 1950s played a game with “knucklebones” much like the game of jacks that is well known in Western society. A woman in Mytilene showed me how they were used as dice. But in this sanctuary context, it is tempting to interpret these finds as instruments used in divination or fortune telling. Many rural societies today still include astragaloi in their divination assemblages. At the base of an altar within the sanctuary walls, three lead curse tablets were found.¹⁰ These tablets requested the demise of specific individuals sometime during the 4th–3rd centuries BC, and



Fig. 3. A selection of polished astragaloi from the sanctuary.

showed the practice of worshippers at the sanctuary attempting to alter their fate or the fates of others. Therefore, it would not be out of place to consider the astragaloi found here as divination pieces.

Other worked pieces include two toy mice carved from bone found in this area in a Hellenistic to Roman context.¹¹ They are almost identical and measure about three centimetres in length. They have drilled holes in the hind legs where wheels were likely attached, and a hole through the head where a string could have been laced for towing, like many modern children's toys. These toys may have been left as votives at the sanctuary for the well-being of specific children. Several terracotta figurines of boys and girls were found in the sanctuary dump demonstrating that children were included in the prayers of some worshippers.¹² A votive relief, probably originating in Attica, shows Demeter and Persephone holding torches to the left of an altar, the servant carrying a sacrificial basket (*kanoûn*) and a piglet accompanies the couple with four small children.¹³ In this instance, it appears as if the goddesses are being approached for their patronage of child care.¹⁴

Another interesting specimen found in this area was unique and unexpected. A single distal phalanx of a brown bear (*Ursus arctos*) was identified amidst the 40,000 bones of the entire acropolis assemblage.¹⁵ Brown bear has never exist-

⁸ Excavations around the mosque/church foundations uncovered Byzantine graves, but no clear signs of temple foundations.

⁹ Bookidis *et al.* 1999, 4, fig. 1.

¹⁰ Jordan & Curbera 1998. A legible inscription inside reads ΔΑΜΑΡΧΟΣ, consistent with the worship of Demeter, see Jordan & Curbera 1998, 31.

¹¹ These mice could have been mixed with the Hellenistic remains from the overlying Roman dump, though they are not out of place in the sanctuary context.

¹² Sherwood, pers. comm.

¹³ Athens, National Archaeological Museum inv. no. 1016, 4th century BC; van Straten 1995, R68, fig. 82.

¹⁴ van Straten 1995, 78, cf. n. 211, referring to a votive relief showing sacrificial cakes with an inscription, “to the goddesses on behalf of the child” (*IG* II² 4588, Athens, Epigraphical Museum 8790), “[Φ]ίλη ταῖν θεαῖν [ἐ]ξαιμένη ὑπὲρ τοῦ παιδίου.”

¹⁵ The identification of the phalanx as *Ursus arctos* was corroborated by François Poplin (pers. comm.); my thanks to him.

ed on the island. Excavations of fossil deposits in Lesbos have not produced bear bones to suggest that any were ever indigenous on the island, even in the Palaeolithic period.¹⁶ Juliet Clutton-Brock found a single brown bear bone from the assemblage she studied from Emporio on the neighbouring island of Chios, though there are no oral or written accounts of bears extant on the island.¹⁷ The metapodial she identified was polished, so she surmised that it was brought to the island as a talisman. Likewise, the specimen from Mytilene was probably imported to the sanctuary from elsewhere, perhaps from northern Greece or Asia Minor where the brown bear is known to have existed. I do not believe that the bear itself was brought here; it is more plausible that the claw was carried here, perhaps in the form of a pendant or talisman, or perhaps even part of a bear skin rug; the claws are often left in skin rugs.

The sanctuary

Although epigraphic evidence from the site points to the worship of Demeter,¹⁸ the hundreds of figurine fragments found there inform us of the multi-faceted nature of this particular sanctuary. Reminders that we are close to Asia Minor and the Levant come from the eight figurines of Kybele, mostly seated on her lion throne, and two Isis worshipper figurines carrying a *sistrum*. Some grotesque figurines are present, not surprisingly, since the form originates in nearby Smyrna. There are also a few Aphrodites and many Erotes—the most numerous deity figurines from the sanctuary dump.¹⁹ There is also an abundance of animal figurines, and many other types of draped female votive figurines, including *hydriaphoroi*, *hierodouloi*, and even one or two suspected to be Herakles and Dionysos.²⁰ By reviewing the representations of the votive figurines found in or close to the sanctuary, it becomes clear that Demeter was not the only deity worshipped at this sacred site. Furthermore, the five or more altars found at the site may not all have been dedicated to Demeter. Other Demeter sanctuaries in Magna Graecia, for example, exhibit a predominance of pig bones in their assemblages, as in Knos-

sos, Corinth, and Cyrene.²¹ Here in Mytilene, as illustrated above, 50% of the fauna are bovids, which could be due in part to the variety of deities worshipped here. Testimonia, however rare, do exist on the suitability of bovids as sacrificial victims for Demeter, but especially for Persephone.²²

The presence of a hearth altar in the sanctuary, furthermore, seems fitting for the worship of chthonic deities, such as Demeter and Persephone.²³ Altar 1 (Fig. 4) is comprised of five cells, all revealing burnt areas from their use as sacrificial enclosures, perhaps a type of hearth altar. The sacrifices seem to have been performed directly on the ground perhaps to facilitate the reception of the offering by the worshipped deities of the underworld. This type of altar is well-known from archaeological sites; Yavis presented a similar type from Akragas that he suggested had been used for chthonic rituals.²⁴ In 1987, David Reese examined the bones from this altar and discovered that almost half were composed of sheep and goat bones, while the other half of the assemblage comprised pig bones. There were also a few cattle bones associated with this feature.²⁵ He established that most pig and sheep/goat bones were from individuals of less than two years of age. This coincides with the suggested appropriate sacrifices for Demeter and Persephone as mentioned in Pausanias, by Plutarch, by a scholiast on Lucian, and Clement of Alexan-

²¹ Knossos: Jarman 1973. Corinth: Bookidis *et al.* 1999; Stroud 1968, 300. Cyrene: Crabtree 1984.

²² See the examples given in *ThesCRA I*, 79, nos. 115–128.

²³ Nock (1944), and more recently Schlesier (1991–1992), has argued that textual evidence does not support the distinction between Olympian/chthonian ritual practices. van Straten (1995, 167) advises avoiding the use of the terms “chthonic” or “chthonian” in archaeological literature because “it does not appear to stand for any archaeologically definable type of god, cult or altar”, based on the iconographic or textual evidence. I tend to side with Scullion (1994) on this issue, however. He argues that discrepancies in iconographic and textual representations are merely circumstantial, but the archaeological reality is very consistent with specific rituals. Bremmer (2005) states that Greek sacrifice is a system of symbolic signs including colour of animal, presence of wreaths or not, location of consumption, shared or not with the God, high or low altars, wine or no, eaten or wholly burnt, with or without cakes, etc. “Sacrificial rituals always consist of varying combinations depending on the other ritual elements and the function of the relevant divinity” (Bremmer 2005, 163). I therefore see no great discrepancy in the association with hearth altars being used occasionally to venerate underworld deities, and calling these rituals “chthonic”, even just as a supposition. This is not to say that the *eschara* was never used for Olympians, or that the *bomos* was never used for underworld deities, just that there are different types of veneration, as there are in modern religions. The sanctuary at Mytilene has evidence for the worship of Demeter and likely Persephone, and so the suggestion that chthonic rituals took place here is not unfounded.

²⁴ Yavis 1949, 241.

²⁵ Reese 1989, 68; Reese, pers. comm. Kadletz’s (1976) review of ancient testimonia on suitable offerings to specific deities finds that cattle, sheep, goat and pig are appropriate offerings to Persephone in different places.

¹⁶ There is no published account of cave bear (*Ursus spaelaeus*) remains from Lesbos; Mayor (2000) discusses other fossil fauna from the island.

¹⁷ Clutton-Brock 1982.

¹⁸ An inscription found on a roof tile with the word MATPOO[N] is suggestive of Demeter, in one of her many epithets (Williams & Williams 1988, 138).

¹⁹ Sherwood, pers. comm.

²⁰ I am indebted to Kathleen Donahue Sherwood for information on the figurines from the sanctuary at Mytilene, to be published at a later date.



Fig. 4. Altar I, the hearth altar excavated in the sanctuary (used with permission, Williams 2010).

dria, and in inscriptions found at various sites.²⁶ These mention cattle, young pigs or sheep as suitable offerings. Pigs have been found to be typical sacrifices to Demeter from other zooarchaeological studies, as in the aforementioned Knossos, Cyrene, Corinth, and also Akragas, Knidos and Ephesos, though bovinds appear in some assemblages as well.²⁷

To the south of Altar 1 is a step altar or *bomos*, named Altar 2. Step altars have traditionally been thought in the past to have been used for sacrifices to Olympian gods as opposed to deities of the underworld, including heroes.²⁸ van Straten's study of iconographic evidence of sacrifice, however, shows

that step altars are shown to have been used in most representations of all deities.²⁹ It is clear from the archaeological evidence, however, that these two altar types have been built with specific rituals in mind. It has also been postulated that Altar 1 could have been dedicated to Persephone and Altar 2 to Demeter in similar arrangements at other sanctuaries.³⁰ If not intended for different deities, perhaps Altars 1 and 2 were used for different festivals throughout the year, according to the appropriate time and type of festival. There is no evidence from either of these altars that holocaust sacrifices occurred, or that sacrifices were partially consumed by participants. Almost no faunal material was recovered from Altar 2, so further speculation is not possible. The other three or four altars are poorly preserved and thus do not contribute to the faunal assemblage.

²⁶ For the evidence, see *ThesCRAI*, 79, nos. 115–128.

²⁷ For a synopsis of zooarchaeological remains, see *ThesCRAI*, 80–81, nos. 129–134. For Knidos, see Burkert 1985, 243, n. 17. While the principle deity worshipped at Ephesos was Artemis, Forstenpointner (2001) has found piglet remains within the Artemision which are reminiscent of Thesmophoric ritual to Demeter.

²⁸ Yavis (1949, 241) was one of the first scholars to propose this distinction. Ekroth (1998, 117) presents the traditional views, but shows by review of the archaeological remains that that rituals specifically to hero cults were not consistently chthonic in nature.

²⁹ van Straten 1995, 166.

³⁰ At Eleusis, Clinton (1974, 82) states, "There was more than one altar at Eleusis; Demeter and Kore each had their own"; at Akragas, Yavis (1949, 241) notes that "chthonian and Olympian altars are found side by side".



Fig. 5. Sacrificial pit dissected by Ottoman wall (now removed) reconstructed by lines A and B (used with permission, Williams 2010).

To the east of Altar 1 lay the remains of a shallow sacrificial ash pit (Fig. 5) sadly greatly disturbed by an Ottoman wall running north to south in between it and Altar 1. Examination of the east wall face of Altar 1 showed that the sacrificial pit had at one time abutted the hearth Altar 1 as shown in the reconstruction in Figure 6, so we can speculate that Altar 1 and the pit were contemporary, though the latter was a slightly later addition. The pit does not form a complete circle, and may be semi-circular measuring approximately two metres at its greatest preserved diameter; only about a third of it has been preserved after the Ottoman wall mentioned above dissected its western side. A few angular rocks were found in the middle of the pit, but there is no evidence that a base was purposely built underneath the ash. The stones enclosing the pit preserve the blackening from fire indicating that the burning of sacrificial victims did take place *in situ*, i.e. the structure is not merely a pit for the deposition of ash. What makes this feature remarkable is not the semi-circular construction, but rather the material it contains. Sorting of the surviving sample from within the pit revealed a faunal assemblage composed almost entirely of charred and calcined piglet remains, which are discussed in greater detail below.

This crude construction does not resemble the circular well altars that have been found at other Demeter sanctuaries in Magna Graecia, like Morgantina, and Akragas in Sicily, and at Corinth, Olympia, and Priene.³¹ The pit is crudely

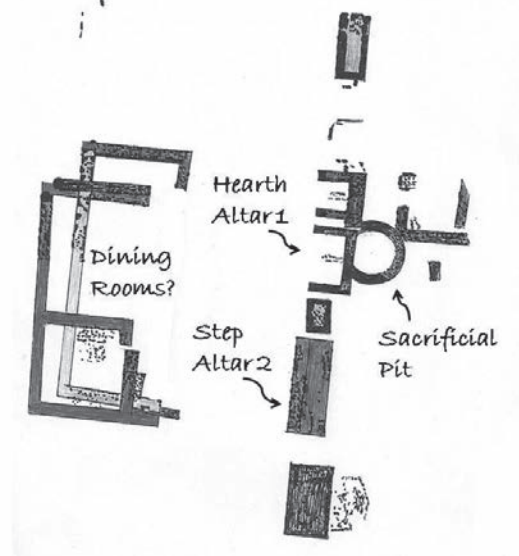


Fig. 6. Plan of altars and sacrificial pit.

constructed with uncut blocks and is fairly shallow.³² The contents of the pit comprising an abundance of burnt piglet bones and ash provide evidence of a Thesmophoric-like ritual. The pit then may have been used as an altar, perhaps during the final stage of the Thesmophoric ritual.

³¹ Incidentally, Priene has evidence for the worship of Kybele as well, in likeness to the sanctuary at Mytilene (Rumscheid 1998).

³² There is a similar construction for burning animal offerings at the Archegeion in Delos, see Ekroth 1998, 120–121, fig. 1.

The assemblage from the sacrificial pit

The piglet bones from the sacrificial pit in Mytilene are perinatal, i.e. appear to have been a few days pre- or post-natal, as revealed by their unerupted deciduous canine and incisor teeth and unfused proximal metapodials.³³ Many of the remains, however, are small enough and underdeveloped to have been foetal. The piglets were most likely farrowed by a domesticated sow since they had to have been born in the autumn.³⁴ Pig farmers can ensure that domesticated pigs can farrow twice a year, once in the spring and another time in the autumn.³⁵ This is convenient because we know that the Thesmophoria were celebrated in the month of Pyanopsion, approximately the equivalent of our October, coinciding with the sowing of winter wheat and barley.³⁶ It is also convenient that August to November is the peak birthing time for domestic pigs.

The pit was filled with thousands of piglet bones, even though only approximately a third of the construction was intact after the construction of later walls. All parts of the skeleton are represented, indicating holocaustic sacrificial ritual. Furthermore, all the remains were completely calcined through, which accounts for some shrinkage in the bones. At this young age, shrinkage can be up to 20% of the original size.³⁷ Despite the even burning of the assemblage, some individuals appear to be smaller than others indicating either breed differences and/or slight age differences, though in every litter, there is size variation between siblings. Because sows farrow their young in the autumn, commonly between September and November, some piglets would have been older than others during the time of the festival. Furthermore, the sacrifice of pregnant sows to Demeter seems to have been commonplace.³⁸ If the festival was held in Octo-

ber, some sows would certainly still be pregnant.³⁹ There is ample evidence from the piglet remains that foetal pigs were sacrificed, therefore implying that the mother too was offered to the deity.

The chart in *Figure 7* summarizes the skeletal elements represented in the assemblage from the preserved portion of the pit. In the parentheses are included the hypothetical projections from what could have been in the complete pit; these are the actual number of specimens times three since only approximately a third of the assemblage survived the later Ottoman wall construction. These are provided as a point of interest, to estimate the numbers that may have been used in the original ritual. The Minimum Number of Individuals (MNI) is 29 (87) piglet individuals counted from the left astragali. There are 3,188 (9,564) tiny bones from this feature, of which 405 (1,215) are teeth. The other well-represented portions of the skeleton are from the trunk of the skeleton simply because of the relative abundance of many vertebrae and rib pieces in each skeleton and their fragility; these were represented by 408 (1,224) and 473 (1,419) specimens respectively. The vertebrae were unfused, as were all the long bones and phalanges, adding hundreds of epiphyses to the assemblage. There were 11 butchery marks in total in the whole rib assemblage, and 16 on vertebrae. It appears that a few specimens were split longitudinally.⁴⁰ Metapodials and phalanges also had good representation because they are sturdy bones that preserve well; there are 16 and 48 respectively in a single individual. Many metapodials could be sided, though digits II and V presented a problem in siding such small individuals. In terms of extremities, both anterior and posterior portions were represented, with a greater frequency of anterior elements, as noted in *Figure 7* by the percentages. In terms of sides, there is a 12% greater occurrence of left-sided

³³ According to the study by Silver (1969) on the ageing of domestic animals, the proximal metapodials are fused before birth, while the epiphyses of the metapodials in the pit assemblage have not yet fused indicating that some of the piglet individuals were foetal.

³⁴ While wild pig can also farrow twice a year given the ideal environmental circumstances, they typically only farrow young once a year, and exclusively in the spring (Boessneck & von den Driesch 1979).

³⁵ Lauwerier 1983, 484. Lauwerier also discusses the problems with using piglets as seasonal indicators, but states that the standard of domestic sows farrowing twice a year is usual.

³⁶ See Stallsmith (2009, 28) for a discussion on this season in Attica, as well as the ancient sources referring to Pyanopsion.

³⁷ Shipman *et al.* 1984, 320; according to this study of color and shrinkage of burnt bones, the appearance of the piglet remains, calcined white and dark grey, indicate a Stage IV and/or Stage V burning of bones between 440–900+ °C for more than 2 hours.

³⁸ See Bremmer 2005, 158–160 for the evidence; cf. *ThesCRAI*, 79–80.

³⁹ Georgoudi (1988, 77) reminds us that it is not always an easy task to find exactly the prescribed sacrificial victim at the precise time that it is required; finding a pregnant sow that has not farrowed her young by the time of the festival may have been an extraordinary task requiring even the scheduling of sow breeding to ensure the participants' success in acquiring the pregnant individual when needed. A sow normally gestates piglets for three months, three weeks and three days. Bremmer (2005, 161) refers to an epigram concerning a "heifer with laden belly" that went into labour during the sacrifice and was subsequently released. Whether this instance is fictional or not, it seems vital to the ritual that the victim is unquestionably pregnant at the time of sacrifice. Bruneau (1970, 270–274 and 286–288) presents textual evidence from Delos which states that a pregnant sow was sacrificed to Demeter regularly at the Thesmophoria. "If this happened at the Delian Thesmophoria, it is likely to have been so at many celebrations of the Thesmophoria elsewhere in the Greek world" (Clinton 2005, 179). This evidence supports the identification of some of the piglet remains in the pit as foetal.

⁴⁰ A few terracotta piglets from the Thesmophorion on Thasos are also depicted as being split in this manner (Muller 1996, 448, nos. 1138–1141, pl. 138). I am indebted to Gunnel Ekroth for this reference.

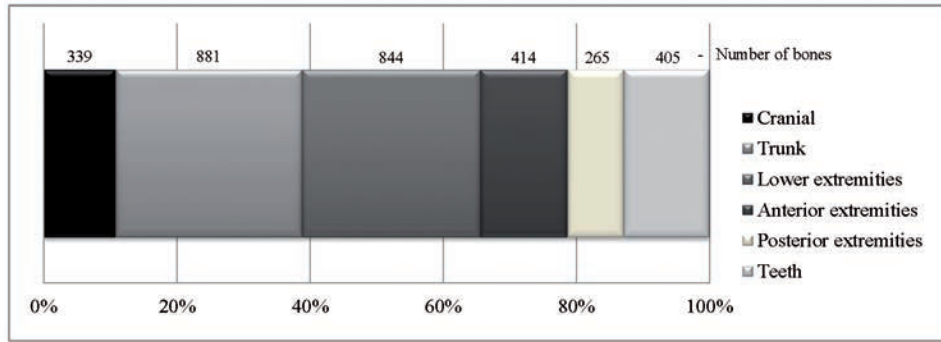


Fig. 7. Summary of piglet bones present in the sacrificial pit of the Demeter sanctuary, Mytilene.

elements in the assemblage. These statistical differences can either be a result of the destruction of the other two-thirds of the pit, or show that in some cases, the hindquarters or right sides could have been removed and offered elsewhere.

It is interesting that anterior elements occur more frequently than posterior in the existing assemblage; this could be significant because of the sheer number of bones. Although there is only 5% difference in the representation in the entire assemblage, there is a 40% difference between the frequency of the anterior and posterior limbs: there are 414 (1,242) anterior elements, and 265 (795) posterior elements. Again, this could be a taphonomic difference related to the destruction of the west end of the pit, or it could show selection, maybe the splitting of the offering between two deities, or perhaps sharing with the participants, or even taking portions of the blessed piglets home to be spread in the fields to ensure fertility. Excavation of the sacrificial pit revealed that the posterior portions of the piglets were mainly found by the eastern edge of the pit. This suggests that the piglets were held by their back legs and thrown into the pit by the worshippers since the majority of the posterior portions seemed to have accumulated just inside of the surrounding wall,⁴¹ while the forelimbs and most of the cranial material seemed to accumulate in the middle of the pit.⁴² Whether it was ritually significant that the piglets be deposited in the pit in this manner, or unconscious habit, no one can know.

Unfortunately, excavation of this sanctuary occurred some 20 years ago, when flotation was rarely undertaken on Classical sites. However, in 1993 a palaeoethnobotanist (Kimberly Wooten) floated a small sample that was left in

the pit on the acropolis. She identified barley and grape seeds in the charred sample.⁴³ Burned seeds found among the piglet bones complete the ritual picture of the sacrifice of piglets mixed with seeds and grains to ensure a good crop (see below).⁴⁴ There are also pottery sherds from small vessels and some seashells.⁴⁵ Perhaps these small vessels, including bivalves and gastropods shells, contained the seeds and grains that were placed in the fire. Other burnt miscellaneous items found in the altar include 34 avian bones, 20 fish bones, three sea urchin spines, two juvenile horn buds,⁴⁶ and two possible snake vertebrae fragments.

The Thesmophoria

The semi-circular pit at this sanctuary could very well have functioned as a sacrificial altar during the ancient Greek festival of the Thesmophoria, a strictly female festival held in honour of Demeter just before the sowing season in the autumn. The best account of the secret rites of the Thesmophoria comes from a scholiast on Lucian: “When the earth opened up for Korê, a swineherd named Eubouleus was swallowed with his swine in the same chasm. In honour of Eubouleus, piglets were thrown into the chasms of Demeter and Korê along with wheat cakes in the shape of snakes and phalli as well as the cones of the prolific pine tree. The rotted remains of the piglets are drawn from underground *megara* by women called bailers (*antlêtriaí*) who had purified themselves for

⁴³ Williams, pers. comm.

⁴⁴ Clinton (2005, 177) refers to the similarity of a Hittite text describing a fertility ritual involving pigs: “Just as a single pig gives birth to many piglets, let every single branch of this vineyard, like the pig, bear many grape clusters”. That grape seeds were also recovered in this Thesmophoria context is fascinating.

⁴⁵ Seashells found in the pit include six *Cerastoderma edulis*, two *Monodonta turbinata*, four *Murex brandaris*, one *Pecten jacobaeus*, one *Macrura corallina*, one *Chlamys opercularis*, and ten *Acanthocardia* sp.

⁴⁶ Horn buds are presumably from young sheep, though no juvenile selenodont teeth were found.

⁴¹ Representations of youths or men holding piglets by a posterior leg are seen on Attic red-figure vases, see Durand 1986, 135–136, figs. 58–61. Cf. also an Attic red-figure lekythos in the National Archaeological Museum at Athens (inv. no. 1695), where a woman is shown holding a dog by its tail apparently depositing it into the ground, see fig. 10, in the contribution by Ekroth, this volume.

⁴² H. Williams published (1994) that only anterior portions of piglets were found in the pit. This was true of the small sample studied during preliminary stages; the sample was taken from the middle of the pit.

three days. They clapped and shouted as they descended to scare away snakes that were said to live in the chasms. The remains were mixed on the altar with the seed about to be planted in order to produce a good harvest.”⁴⁷

Piglets are recognized fertility symbols, as are the notorious snakes which are said to occupy the *megara*. Furthermore, as the festival was held during the month of sowing, Pyanopsion around October, the Thesmophoria are thought to have been an agrarian ritual of a type to ensure fertility of the crops, upon which matter Demeter herself educated humankind.⁴⁸

The Thesmophoria were rituals shrouded in secrecy. Only married women could participate, and they were sworn to secrecy; divulging the contents of these rites to non-participants was punishable by death. In a comedy by Aristophanes produced in 411 BC, the severity of the crime is revealed. In this play, entitled *Thesmophoriazousai* (*The Women of the Thesmophoria*), Euripides the tragedian has insulted Athenian women, and in response they arrange to discuss his punishment among the other women in the privacy of the Thesmophoria. In response to his anxiety, Euripides shaves and dresses his father-in-law Mnesilochos as a woman in order to attend the festival as a spy. Mnesilochos is caught and tied to a plank for execution by a Scythian archer, but is saved at the last moment by Euripides dressed up as an old woman. In short, spies and snitches were not tolerated. Because of this strictness of secrecy, the exact rituals have not been recorded and we are left to reconstruct these secret rites from vague references in ancient testimonia. Luckily, we have some archaeological clues to help put some pieces together.

The Thesmophoria were fertility rituals which are thought to be carry-overs from an older era; the later myth of Persephone and Eubouleus is merely etiological to explain the need to cast piglets into snake pits. But given that piglets are symbols of female fertility (presumably because of the fecundity of sows which can farrow ten piglets twice a year), and snakes which are anatomically equated with male genitalia and fertility, this ritual must go beyond the mythical story. The symbolism must be more meaningful than a re-enactment of an event in the life of a goddess; its original

meaning, probably inspired by an ancient preliterate society, has been lost. Mixing grains with rotting flesh could perhaps be a practical matter of nourishing the seeds with a natural fertilizer, while keeping within the symbolism of the cycle of life: “Verily, verily, I say to you, except a corn of wheat fall into the ground and die, it abideth alone: but if it dies, it bringeth forth much fruit.”⁴⁹ The deceased animal nourishes the new seed to support new life, growth and prosperity.

What we *do* know is that the Thesmophoria were celebrated in at least 50 cities in Greece, Asia Minor and Sicily, though there are no written accounts of the Thesmophoria at Mytilene.⁵⁰ The Thesmophoria lasted for three to four days, depending on the place of worship: the first day was the *Anodos* where women would convene together, having chosen their richest and most important women to represent their *deme*. Verbal interactions between women on this day were either perverse or insulting (*aischrologia*). The *Anodos* was the ascension to the sacred space of the Thesmophorion. The second day was a grieving day of fasting (*nesteia*). For this, the women were seated on the ground, without fire in some cities, and only pomegranate seeds were eaten.⁵¹ Insults and bad language were again exchanged among the women. The third and final day, especially the evening and night, was a meat feast in celebration of the *Kalligeneia*, the “goddess of beautiful birth” who appears in no other contexts and has no counterpart among the Olympian gods, further emphasizing the possibly pre-Olympian nature of this festival.⁵² On this day of the festival, the rotten piglet remains were likely brought up from underground caverns and placed on the altar and mixed with seeds to ensure good harvest. In some cities, the festival of *Stenia* is included as a pre-Thesmophoric preparation a day or two before the festival.

Piglets

One aspect of the Thesmophoria that is enigmatic and vague in all the ancient references to the festival is the time at which the piglets were placed in the caverns or *megara*. Scholiasts and philologists alike have considered this problem for decades. If the piglet remains needed to putrefy, two or three days in a cool underground cavern or pit during the autumn festival would not be sufficient. Early scholars have suggested

⁴⁷ Schol. ad Lucian *Dial. meret.* 2.1 (Rabe p. 275.23–276.24); translation by Foley 1994, 73.

⁴⁸ For a good review of studies published on the Thesmophoria, see Stallsmith (2009, 28). For the etymology of the name “Thesmophoria”, see Stallsmith 2009, 33–34. “Thesmophoria” was originally thought to have meant “things that are laid down” as in the items carried to the altar or the pigs laid in the pits with cakes, phalli and pine cones (Burkert 1985, 243). A more fitting interpretation suggests that the “things” that are laid down are actually things like laws or decrees, not public laws (*nomos*), but natural laws (*physis*). The name derives from Demeter’s title as law-giver of civilized life rather than the bearer of ritual objects, see Brumfield 1981, 72–73.

⁴⁹ John 12:24, Webster’s Bible Translation.

⁵⁰ Brumfield 1981, 70.

⁵¹ These seeds were likely eaten to commemorate the pomegranate that Persephone ate, thus sealing her fate to stay in the underworld with her abductor; the seeds that fell on the ground were the food of the dead and should not be picked up (Clem. Al. *Protr.* 2.19.3).

⁵² Gill 2011.

that the piglets were deposited from the previous year at the Thesmophoria, and collected a year later at the festival, but in this scenario the soft tissue would have completely disintegrated by the time a whole year passed.⁵³ Others have suggested that the piglets were deposited during the midsummer fertility festival of *Skirophoria*, and retrieved four months later.⁵⁴ But this too is problematic—the remains would be beyond the rotting stage and dried out during this time. It has also been suggested that perhaps the rotted remains of the piglets were retrieved *after* the festival had been completed to allow time for the carcasses to putrefy,⁵⁵ but the impression one is given from the description of the ritual is that the consecration of the piglets on the altar with the seeds is the climax and in fact the purpose of the festival performed by the assembly of women. Simon suggests that perhaps the piglets were committed to the *megara* during the festival of *Stenia*, occurring one or two days before the Thesmophoria.⁵⁶ But again, five days would not be enough time for the remains to rot in a cool cavern.

Another possibility about the timing of when the piglets were thrown into the *megara* is perhaps the most sensible of all suggestions, allowing the ideal time required for piglets to rot: Clinton suggests that in Athens the piglets were deposited in the *megara* during the Eleusinian Mysteries on Boedromion 21.⁵⁷ Several deep pits, one as deep as 7 metres, were dug against the wall of the Telesterion porch, a building known for its use during the Eleusinian Mysteries. If we accept that these are the actual *megara* used for the piglet sacrifice associated with the Thesmophoria, then this would allow the piglets 20 days to putrefy. Logistically, this is a very sound proposal, though there are some unresolved issues. Clinton admits that this would involve bringing the piglets from Athens (or pregnant sows, if we accept the Delian ritual model), and then the participants would have to tend to them for seven days before Boedromion 21, the day that Clinton suggests for the casting of the piglets into the pits. Furthermore, it is likely that the pits around the Telesterion were built for use during the rituals of the Mysteries; we do not have evidence that the Telesterion was used during any other festival. Also, textual evidence suggests that the piglets were thrown down into the *megara* during the Thesmophoria: “The Scholion of

Lucian has to be taken together with a sentence from Clement of Alexandria (*Protr.* 2.17.1). This text clearly states that they threw down the piglets at the Thesmophoria.”⁵⁸

Therefore, it seems sensible from a ritualistic perspective that committing the piglets to the *megaron*, and then retrieving them to sacrifice on the altar mixed with grain must all be performed within the three days of the festival.

Another problem is the vagueness in regard to the role of the snakes. We can understand the symbolism of placing piglets below ground as a chthonic fertility ritual, but the symbolism is somehow incomplete. Piglets were thrown into *megara* containing snakes perhaps because the snakes were a fundamental part of the fertility ritual. Given the danger involved, it would have certainly been possible to make pits that would prohibit snakes from entering, but perhaps the point was to allow the snakes to interact with the piglets.

To address the piglet and snake relationship during this ritual, while also addressing the timing of the deposition of the piglets in the *megara*, it is useful to examine some relevant environmental and zoological issues. These issues specifically address the environment around Mytilene, for this is the site in question, but the timing proposals and information concerning snake behaviour pertain to the understanding of the ritual anywhere in ancient Greece.

Lesbos has one of the most diverse serpent populations of all the Greek islands. Over 17 species have been reported by travellers and herpetologists; there may be as many as 22 species, including rare species like the Blind worm snake (*Typhlops vermicularis*). The island is home to the most poisonous snake in Europe, the Ottoman viper (*Viper axanithina*). Some of the species in this variety can reach a metre and a half in length, sometimes more. They feed mostly on small mammals, reptiles and amphibians. A piglet is easily swallowed by these snakes within an hour or two; large snakes can even eat two or three in one feeding episode.⁵⁹ They will eat live animals, or freshly killed animals; they will not eat putrid meat. When the victim has been swallowed, a snake digests the carcass completely, leaving no traces of bones in its stool. A snake may take seven to ten days to digest its meal, depending on the size of its prey and its body temperature—the warmer the temperature, the faster it will digest.

A crucial factor in understanding the process of this ritual (namely, to place piglets in the *megara*, to have them interact with snakes, to putrefy in three days, and to bring them up to offer on the altar with seeds) is to know whether the

⁵³ Frazer 1922, 45, for example.

⁵⁴ Deubner 1932, 40–44; Nilsson 2009, 22 and 40.

⁵⁵ Rohde 1870, 554; Clinton 2005, 177: “Piglets are definitely deposited in the *megara* at the Thesmophoria, thus the rotted remains would be fetched up at a later festival and mixed with the seed grain”; the later festival is not identified, however.

⁵⁶ Simon 1983, 18–22.

⁵⁷ Clinton 1988, 77–78; Evans (2002, 242) accepts this idea as well in her discussion of the Eleusinian Mysteries. The Attic month of Boedromion corresponds roughly to September–October.

⁵⁸ Commentary by Burkert in “Discussion” of Clinton 1988, 79. Clinton (1988, 79) rebuts this inference by stating that both works are based on the same source, and must refer specifically to a local Alexandrian festival.

⁵⁹ Diamond 1994, 50.

piglets were thrown into the caverns alive or dead. After all, if the piglets were already dead before placement in the cavern, then putrefaction of the carcasses would already be underway and the snakes would not be drawn to these animals. If, however, the piglets were committed to the *megara* alive, then death and decomposition would take at least ten days, perhaps longer in a cool cavern in the autumn.

There is some evidence to suggest that the piglets were cast into the *megara* alive. Pausanias (9.8.1) referred to a ritual to Demeter and Kore at Potniai in Boiotia where newborn piglets were thrown, presumably alive, into the underground *megara*. The text of Clement of Alexandria has been interpreted to mean that the participants of the Thesmophoria “cast down living swine into the *megara*.”⁶⁰ If we accept that the piglets were thrown live into the caverns, then we can assume that many of these were eaten by the snakes known to be within. In fact the scholiast on Lucian states, “It is said that there are snakes down below in the chasms which eat most of what is thrown down; for this reason a noise is made when the women bail up and then again when those forms are laid down, so that the snakes will go away, who they believe are the guards of the forbidden places ...”⁶¹

If the snakes consumed some of the piglets within three days, that would leave only the survivors for offering on the altar with grain, but as was discussed above, three days would not be sufficient time for the animal to die and to decompose. There is, however, one possibility which takes in account all parameters of the ritual established above: the bailers could have retrieved those piglets consumed by the snakes.

This is easily achieved by making loud noises and/or moving the snakes during digestion. It is well-documented that serpents upset in this manner regurgitate meals that impede their quick escape when threatened.⁶² Even victims that were swallowed days before can be regurgitated whole. In this scenario, it is not surprising then that the bailers screamed and clapped as they descended; they not only wanted to avoid contact with the snakes themselves, but by doing so, they could have alarmed them enough to regurgitate the piglets they had consumed. If, as the scholiast explains, the bailers made noise so that the snakes would go away, the reality is that snakes laden with a large meal would not be able to

escape unless the meal was regurgitated. Interestingly, and rather useful in this context is that the piglets would be in a putrefied state when regurgitated by the snakes.

Given these time parameters of three days and other ritual requirements as offered by various sources, the following scenario exists: that during the days of the *Stenia* or *Anodos*, women sacrificed pregnant sow(s) to Demeter or brought newly born victims, and then cast the piglets into the *megara*. This primary sacrifice was likely performed on the first days of the festival to allow time for the piglets to either die or be swallowed by serpents, but also because the scholiast on Lucian mentions that bailers had “purified themselves for three days” prior to retrieving the rotted piglet remains from the *megara*. The slaughtering of the pregnant sow in the first days of the festival may have served to purify the participants, particularly the bailers.⁶³ The piglets would then be cast into the caverns.

A few days later, the bailers descended into the *megara*. They would scream and clap to make loud noises, as the scholion on Lucian describes. By doing so, the snakes below would become distressed and, having consumed the piglets, would be considerably laden down by their victims and unable to flee. They would instinctively regurgitate their victims in order to escape, as snakes do. The bailers would then collect the rotted remains of the piglets and bring them to the altar to be mixed with seeds.

Thesmophoria at Mytilene

Charred piglet remains in the context of a Demeter sanctuary comprise the largest part of the evidence we have for Thesmophoric ritual in Mytilene. While it is compelling that we should have so many calcined piglets preserved in one sacrificial pit, we have no way of confirming that these are remains from the Thesmophoria. An underground *megaron* was not discovered during the course of excavation here, though most of the acropolis has yet to be excavated. It could very well be that after they were brought up from the caverns the rotted remains were mixed with seeds and then burnt as sacrifice to the goddess on the altar, but the textual evidence does not explicitly state this. Instead, it has been interpreted in the past that the rotted remains were mixed with the grains on the altar and then taken back to the fields to be spread.

⁶⁰ Clem. Al. *Protr.* 2.17.1: “μεγαρίζοντες χοίρους ἐμβάλλουσιν”; Jane Harrison (1991, 131) translated this phrase to mean “they cast down living swine in the *megara*”, following Lobeck (1829, 832) who paraphrases “μεγαροὺς ζόντας”.

⁶¹ Schol. ad Lucian *Dial. meret.* 2.1 (Rabe p. 276.8–13), translation by Clinton 1988, 76.

⁶² See Bartlett & Bartlett 1998, 58; Engelmann & Obst 1984, 194; Tynes 2010, 30 to name a few. Also, for a graphic demonstration, a quick search on the web for videos of regurgitating snakes can be found—there are plenty. Most snakes are timid and easily threatened.

⁶³ Clinton (2005, 169–174) reviews the many instances in ancient texts where pigs are used as scapegoats to absorb the pollution of people or places. Pigs were used in purification rituals to rid individuals of impurities, and then disposed of either by immolation, being cast into the sea, by deposition at crossroads or being buried.

It is a logical assumption that all seeds to be sown were not brought up to the sanctuary, and that only a sample of the seeds from the previous harvest was mixed with the piglet remains. In the sacrificial pit on the acropolis in Mytilene, we have botanical evidence that the seeds were also burnt. So perhaps, only a symbolic sample of the seeds to be sown was burnt on the altar with the rotted remains. By doing so, the stench of putrid pigs would also be eradicated or disguised. The two tiny fragments of lateral processes from reptilian vertebrae that could be from snakes may tie the ritual remains in with the underground caverns: perhaps a dead snake was collected among the remains too. However, it must be said that these fragments are not diagnostic of genus, or even family, and could represent an intrusive lizard or skink that fell victim to the flames.

The number of butchered bones in the sacrificial pit, though few, would indicate that some individuals were divided into portions. Perhaps some parts of the piglets were taken back to fields to ritually introduce a blessed sample of the seed to be sown, while the rest were burnt as offerings. Certainly, the rotted piglet remains could not be expected to cover the whole area of the field to act as potent fertilizer, so the ritual must be symbolic. Given all these factors, it is not unreasonable to associate the piglet remains from Mytilene with Thesmophoric ritual.

Conclusions

The faunal remains preserved from the building, two altars and the sacrificial pit on the acropolis in Mytilene offer insights into the use and practices of the sanctuary. The identification of the sanctuary as devoted to Demeter allows for interpretations involving rituals known in the worship of this deity. The finding of a sacrificial pit within the sanctuary grounds containing thousands of charred piglet remains immediately calls to mind the rituals of the Thesmophoria. The festival ran for three days and was celebrated by all, if not most, of the married women in Mytilene and in many other cities in ancient Greece.

The evidence we have for associating these archaeological remains with Thesmophoric ritual lies in the sacrificial pit, which may have acted as the altar in which the rotted piglet remains and seeds were mixed, and then burnt. Both seeds and piglet remains are present in this pit. The cavern or *megaron* from which the rotted remains were bailed has not been found, though the possibility of its discovery exists pending the continued excavation of the site. It is therefore not implausible that the remains were associated with Thesmophoric ritual.

In reviewing the sequence of activities during the festival in relation to the handling of piglets as offered by the scholiast on Lucian and Clement of Alexandria, one discovers that there are procedures of ritual that are unclear. One such detail is the time of the placing of the piglets in the *megara*. If we believe that there were snakes in the *megara*, and if we accept that the piglets were thrown down into the *megara* alive, then we should refer to true snake behaviour to reconstruct what happened thereafter. It has been stated in the testimonia that the snakes ate most of what was thrown down into the caverns, so we can accept that this part of the ritual is accurate. Snakes, contrary to their terrifying reputation, are timid creatures by nature. They do not attack unless they have no other options for defence; their first instinct is to flee. Furthermore, if they are laden with a large victim, they are less able to strike effectively, making them more vulnerable. The vulnerability when digesting and their instinct to avoid confrontation causes them automatically to regurgitate the object that is impeding their escape from threat. This is simply what snakes do. If we do not accept this option as a viable solution for producing rotted remains within three days of the festival, then we must again re-examine the written sources, both past and present, to determine a suitable time for the placing of the piglets in the *megara*.

However, if we were to entertain the idea that regurgitated piglets were used for this ritual, we would see that symbolically it fits fairly well: if piglets were thrown into a chasm to represent Eubouleus and his swine herd being swallowed in the earth during the abduction of Persephone, then retrieving them from the snakes may be equated with the return of Persephone to land of the living, freed from the hands of death itself, and then returned to her mother as the piglets are offered on the altar to Demeter. Furthermore, the fertility imagery is completed in this relationship; the fecund female symbol interacts with the male symbol creating a product (rotting flesh) that is actually nutritious for seeds. Lastly, and perhaps furthest from our objectives here, is that this explanation could also shed some light on the Bronze Age and Archaic images of women handling or associating with snakes. Again, we find possible vestigial remnants of the pre-Olympian ritual of the Thesmophoria.

Evidence from the sacrificial pit or altar suggests that after the piglets were bailed out of the caverns, they were mixed with seeds and burned within the pit. While all the skeletal elements are represented, there are 40% more anterior elements than posterior. This coupled with the handful of butchered remains suggests that the piglets were split and either shared with other participants, offered elsewhere, or brought to fields to be spread.

Some of the ideas presented here admittedly challenge our sensibilities, but then so do the rest of the Thesmophoric

rituals. Having said this, our ideas of what is “sensible” vary from person to person. We have to be able to strip ourselves of our own inhibitions in order to review objectively the evidence and what it entails. We also must consider our subjects, and what we already know of them to be true. For example, most of us would not consider slaughtering an animal for our own god(s) as reasonable, yet in antiquity sacrifice was a fundamental part of the religious system. Even ideas of slavery and pederasty, commonplace in ancient Greece, are concepts that are not only considered unreasonable by our western society, but also abhorrent and cruel. Likewise with the casting live piglets into snake pits with the purpose of retrieving putrid meat; such acts would be regarded as unorthodox and outrageous in our modern world, but not perhaps to the *Thesmophoriazousai*.

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The sea in the temple?

Shells, fish and corals from the sanctuary of the ancient town of Kythnos and other marine stories of cult

Abstract*

A broad variety of animal remains have been recorded from several cult contexts across Greece. They usually involve sacrificial victims and a variety of animals, and often corroborate ancient sources on the use of animals in ancient Greek cult. Although zooarchaeological or textual evidence regarding the presence of marine faunas in this type of contexts is not missing, their specific role within the sacrificial sphere is usually not extensively discussed. This paper aims to bring together available shell and other marine evidence from sanctuary deposits from ancient Greece with the aim of exploring the role of the sea within Greek cult. In order to bring forward research questions related to this group of remains from cult places, a case study from the adyton of the Archaic–Hellenistic temple of the Middle Plateau in the ancient town of Kythnos in the Cyclades will serve as the backbone of this approach. Careful study of shell and other marine remains in their specific context aims to detect possible ritual actions related to the marine world within an island sanctuary, and to find possible links between the latter and the identity of the worshippers and worshipped deity. What is underlined by this study is the everyday, individual and personal aspect of the cult beyond the official function of sanctuaries in the Greek world. The importance of careful recovery and study of all types of remains from excavations related to cult places is highlighted.

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Introduction

Animals played an important role in ancient Greek cult.¹ Rituals performed at the altars of sanctuaries usually involved animal sacrifice. Other rituals were related to the deposition of food offerings, including animals or animal parts. Domestic and, in some cases, game animals were selected for the rituals following a more or less consistent pattern, as indicated by ancient textual sources and pictorial evidence.² The role of animals in ancient Greek cult practices is further highlighted by the zooarchaeological record. A broad variety of animal remains has now been recorded from cult contexts across Greece and the increasing number of studies of this type of evidence has underlined the discrepancy between formalized ancient textual information and the actual remains of ritual actions.³ Although written sources often corroborate the available zooarchaeological data, there are several instances where bone material offers a different insight into everyday cult practices, allowing a more critical evaluation of thus-far preconceived interpretations of ancient Greek religion often based of ancient texts.

One such example involves marine animals. Indeed, in most animal lists, compiled on the basis of either textual or zooarchaeological evidence, the understated presence of the marine world in ancient Greek cult practices is striking. Although fish are sometimes mentioned in the texts, there is only sporadic evidence of other marine animals, especially marine invertebrates. With respect to the faunal record, shell

¹ Detienne & Vernant 1979; Burkert 1985, 55–59; Grottanelli 1996; Ekroth 2002.

² Kadletz 1976; Jameson 1988; Hägg 1992; Sparkes 1995; van Straten 1995; Himmelmann 1997.

³ For a first approach on the osteological material from cult contexts, see Hägg 1998, 49–56. More recent contributions in Kotjabopoulou *et al.* 2003. For updated bibliography, *ThesCRA* I, 64; Reese 2005, 121–123; MacKinnon 2007, 490–491; Ekroth 2007.



Fig. 1. Aerial photo of the ancient town, acropolis and harbour of Kythnos (archive of A. Mazarakis-Ainian). The sanctuary of the Middle Plateau is marked with a black arrow.

and fish remains from archaeological sites are usually analysed to shed light on ancient diet and environment, their use as raw materials or in purple dye production. On the other hand, their presence within well-defined cult contexts is not unusual either. However, they are usually only briefly recorded or evaluated as anecdotal events at the margins of traditional finds related to cult.

This paper presents the shell and fishbone assemblage from the sanctuary of the ancient town of Kythnos, bringing forward this relatively under-discussed group of remains from cult places. The possible role of this type of faunal remains will be assessed on the basis of zooarchaeological results from a specific context, combined with archaeological data and suggestions on the nature of the cult and worshipped deity. A more integrated picture of the role of these animals in Greek cult will be attempted in the light of possible textual references and relevant zooarchaeological evidence from other sanctuary deposits.

Shells in the adyton

Although there is a growing body of information regarding the uses of animals within sanctuaries, little is known of what took place inside Greek temples. It is known that sacrifice was mostly enacted outside, on an open-air altar usually opposite the main, east façade of the temple, while the interior con-

tained objects dedicated to the deity, including a cult statue.⁴ Even more obscure remains the function of the adyton, the inner room of a temple which would have served as a repository for sacred symbols, precious votives and funds, and possibly as a place for other activities related to the sanctuary.⁵

The case study of this paper focuses on a marine faunal assemblage recovered from such an inner room of one of the temples of the sanctuary situated at the north end of the Middle Plateau of the ancient town of Kythnos in the Cyclades (Fig. 1). This is one of numerous sanctuaries of the ancient capital of Kythnos known to researchers.⁶ The temple consists of two rectangular *oikoi* (A–B and E), set side by side (Fig. 2a–b). On the basis of architectural evidence, it is suggested that the building, probably constructed in the first quarter of the 7th century BC, originally consisted of two cellas, one of which (E) went out of use after severe damage due to an earthquake, possibly in Early Hellenistic times. Only the southern *oikos* was preserved, and was divided dur-

⁴ For a general discussion, see Hollinshead 1999, 189–218.

⁵ The traditional association of this space with the performance of a cult ritual of chthonic nature, especially related to Demeter and Kore, and Artemis, has been refuted by modern scholarship, while other activities related to the organisation of the sanctuary have been suggested, namely storage and safekeeping (Hollinshead 1985, 420–430; 1999, 198–199; Ekroth 2003, 67–69), as well as the less common oracular function (Hollinshead 1999, 195–199 and 214). For a discussion on the function of this space in the sanctuary of Kythnos, see Mazarakis-Ainian 2005, 102–103; 2009, 308–309; 2010, 45–46.

⁶ Mazarakis-Ainian 1998, 363–379; 2005, 87–103; 2009, 287–318; 2010, 21–53.

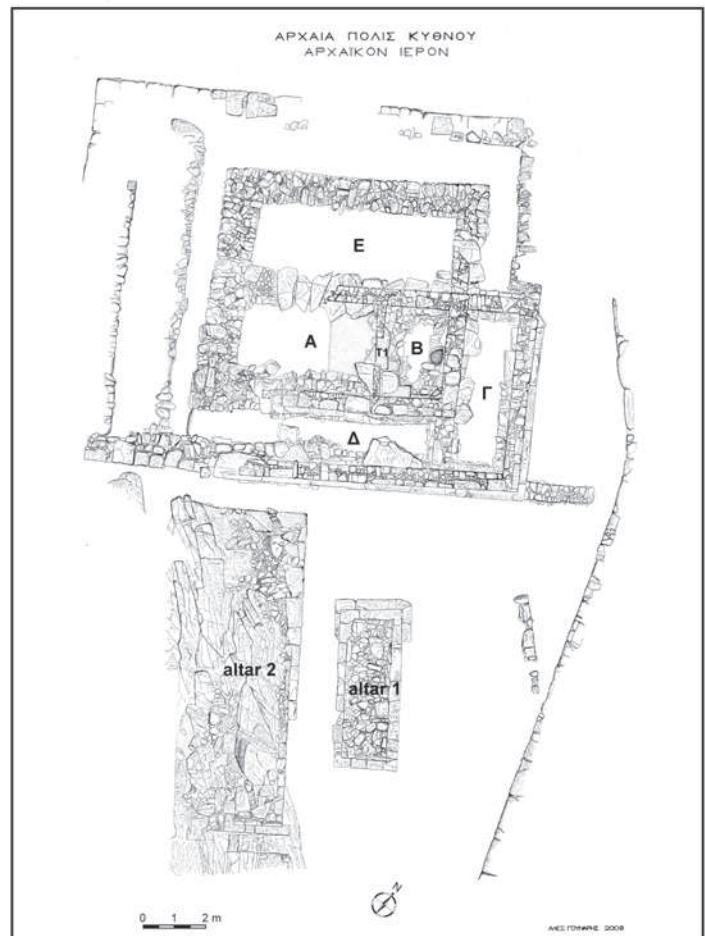
ing a late 3rd century BC repair into a cella (A, 5×2.90 m), and an adyton (B) of small dimensions (2×2.90 m), through the construction of a thin cross wall and a monolithic threshold.⁷ Against the back wall of the adyton, on the axis of the temple, an oblong clay base might have supported a cult statue.

The excavation of the cella down to the original ground level produced few votive offerings.⁸ Rather, the most numerous and spectacular finds came from the adyton.⁹ More than 1,000 objects, including complete and some fragmentary vases imported from various regions (Paros, Chios, Ionia, Corinth, Attica), terracotta figurines, numerous iron and bronze objects, silver and gold jewels, scaraboids, seals, ivory and bone finds, and other small objects made from precious materials (amber, carnelian, rock crystal, other semi-precious stones, glass paste, faience, and coral), unburnt animal bones from young mammals (including 32 astragali), a few bird bones, and numerous seashells were unearthed *in situ*.¹⁰ The discovery of iron nails alongside the walls of the adyton suggests that some of the finds were probably placed in an orderly fashion on wooden shelves, or fixed or hanging from the walls and ceiling, while others might have been placed inside baskets, pottery vessels (mostly *lekanai*) or wooden boxes.¹¹



Fig. 2a (above right). The temple of the Middle Plateau.
Photo: A. Mazarakis-Ainian.

Fig. 2b (right). Plan of the temple and altars.
Drawing: A. Gounaris.



⁷ Mazarakis-Ainian 2009, 311. A general presentation of the sanctuary in Mazarakis-Ainian & Mitsopoulou 2007, 301–317.

⁸ The content of the cella cannot be securely evaluated, as it suffered from looting, Mazarakis-Ainian 2009, 310. It is possible that it had originally contained several votives, Mazarakis-Ainian 2005, 103.

⁹ Mazarakis-Ainian 2005, 96–99; 2009, 291–292; 2010, 31–42.

¹⁰ Noticeable, on the other hand, is the absence from the adyton of other types of offerings often found in temples, such as animal figurines, weapons, and stone votives (stelai and statues, with the exception of one torso); also coins are rare, see Mazarakis-Ainian 2009, 300. On comparison with votives from the sanctuary of Demeter at the acropolis, see Mazarakis-Ainian 2009, 306–307. Nevertheless, some of these categories of finds have been found in the destruction layer outside the temple, providing evidence for their use in the Middle Plateau sanctuary.

¹¹ Mazarakis-Ainian 2005, 102.

However, it appears that the objects had not been originally placed in the adyton, as they antedate its construction. Most of the finds date to the 7th and 6th centuries BC, while the majority of the terracotta figurines are datable to the Classical and early Hellenistic period.¹² According to the excavator, these are votives and other items that had gradually filled the original temple during its use from the early 7th century to early Hellenistic times (first phase: deposition). After the serious damage to the temple at the beginning of the Hellenistic period, intact and possibly some broken objects would have been carefully collected from the debris to be orderly placed in a *mis-en-scène*, in vessels, on shelves or hung inside the adyton constructed during the architectural repair dating from the late 3rd century BC (second phase: secondary deposition).

The conditions of this reorganization are not entirely clear. Although such operations are known in antiquity,¹³ it is not clear whether the clean-up and rearrangement of the debris from the Kythnian temple concerned the whole deposit or a selection of items. It seems likely that mostly intact materials would have been collected, while the severely fragmented ones were not included.¹⁴ The nature of the objects might have also been considered.¹⁵ The content of the room, orderly arranged, would have been visible from the cella, although a protection may have blocked the view to the cham-

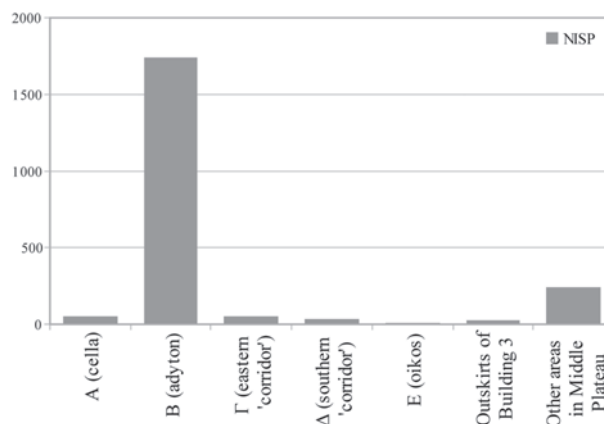


Fig. 3. Spatial distribution of shell remains in the sanctuary of the Middle Plateau.

ber.¹⁶ In the light of the proposed *mis-en-scène*, the presence of an atypical category of finds, related to the marine world, is of special interest and needs to be discussed in detail, especially in relation to the meaning of the deposition of shells in a temple, and their placement into the adyton, as well as with regard to the suggested function of the latter.

Seashells from the adyton outnumber similar finds from any other part of the temple or its surroundings, as well as other excavated areas of the Middle Plateau (Fig. 3).¹⁷ Zooarchaeological analysis may offer an insight into the deposition and uses of this material within the specific context. The shell composition from the adyton is particularly interesting.¹⁸ Rough cockles (*Acanthocardia tuberculata*) make up

¹² Although some of the objects found in the adyton can be dated back to the Bronze Age (some carnelian and rock crystal beads) and the Protogeometric/Geometric periods (pins and fibulae), according to Mazarakis-Ainian (2005, 99; 2009, 305; 2010, 42) they might represent antiques or heirlooms (possible presence of a Cretan community on the island) or even fortuitous finds, and thus, their presence does not contradict the suggested date of construction of the temple or inauguration of the cult. On a detailed discussion on the chronology of the finds, see Mazarakis-Ainian 2005, 96–99; 2009, 287–318; 2010, 42.

¹³ Mazarakis-Ainian 2005, 102. van Straten (1992, 254) also mentions that during clean-up operations or reorganizations of a sanctuary, it was not unusual to bury many of the older and smaller *ex votos* within the sacred precinct.

¹⁴ On the presence of repaired items in the deposit, see Mazarakis-Ainian 2009, 308–309. He suggests that the repairs are not necessarily connected to the placement of these objects into the adyton after the destruction of the temple and proposes either a repair of goods damaged during their transport to Kythnos, or a repair of deposited offerings damaged due to long display and wear in the temple.

¹⁵ According to Mazarakis-Ainian (2009, 307), the absence from inside the adyton of specific groups of finds, such as lamps, present around the temple or in other parts of the Middle Plateau sanctuary, as well as in the acropolis sanctuary of Demeter, may suggest a deliberate selection of votives of a private nature to be deposited in the inner room. On the other hand, utilitarian objects from the damaged temple that belonged to the property of the sanctuary would have been recovered and reused, Mazarakis-Ainian 2005, 102.

¹⁶ Based on the axial positioning of the entrance, the absence of door fittings, as well as on the assumption of an orderly arrangement, Mazarakis-Ainian 2005, 103; 2009, 309–310; 2010, 45, also citing Paus. 2.10.30.

¹⁷ Corals are another common marine material found in the temple, while fish bones are rather rare. The coral objects will not be extensively discussed here, as they are in most cases modified and are considered as part of the votives deposited in the sanctuary. Their analysis is in progress by the author. For an overview, see Mazarakis-Ainian 2009, 298, fig. 13; Theodoropoulou forthcoming b.

¹⁸ Shell remains have been identified with the help of general manuals for the seashells of the Mediterranean and the Aegean Sea: D'Angelo & Garguillo 1978; Fischer, Bauchot & Schneider 1987; Dellamotte & Vardala-Theodorou 1994; Pope & Goto 1991; Koutsoubas, Koukouras & Voultsiadou 1997. Identification was in most cases established to family, genus and species level. Scientific nomenclature follows the CLEAM database (*Check List on European Marine Molluscs – Muséum National d'Histoire Naturelle de Paris*). Common English, Greek and known ancient Greek names have been based on Dance 1977; Dellamotte & Vardala-Theodorou 1994; Voultsiadou & Vafidis 2007; www.sealifebase.org.

Table 1. Marine animal remains from the adyton.

Family	Species	Common name	NISP	%NISP
Cardiidae	<i>Acanthocardia tuberculata</i> (Linnaeus, 1758)	Rough cockle	1561	90%
	<i>Cerastoderma glaucum</i> (Poirer, 1789)	Cockle	86	5%
	<i>Acanthocardia</i> sp. (L., 1758)	Rough cockle	21	1,2%
	<i>Acanthocardia echinata</i> (L., 1758)	Spiny cockle	2	0,1%
Nassariidae	<i>Nassarius gibbosulus</i> (L., 1758)	Dog whelk/mud snail	24	1,4%
	<i>Nassarius</i> sp. (Iredale, 1916)	Dog whelk/mud snail	8	0,5%
Mytilidae	<i>Mytilus galloprovincialis</i> Lamarck, 1819	Mussel	6	0,3%
Patellidae	<i>Patella caerulea</i> L., 1758	Common limpet	4	0,2%
	<i>Patella ulyssiponensis</i> Gmelin, 1791	Rough limpet	1	0,1%
	<i>Patella rustica</i> L. 1758	Rustic limpet	1	0,1%
Carditidae	<i>Venericardia</i> sp. (L., 1758)	False cockle	3	0,2%
Glycymeridae	<i>Glycymeris</i> sp. da Costa, 1778	Dog cockle/bittersweet	3	0,2%
Columbellidae	<i>Columbella rustica</i> (L., 1758)	Dove shell	3	0,2%
Veneridae	<i>Venus verrucosa</i> L., 1758	Venus clam/carpet shell	2	0,1%
	<i>Dosinia lupinus</i> (L., 1758)	Smooth Artemis	1	0,1%
	<i>Chamelea gallina</i> (L., 1758)	Carpet shell	1	0,1%
Trochidae	<i>Phorcus mutabilis</i> (Philippi, 1846)	Top shell	1	0,1%
Mactridae	<i>Mactra glauca</i> (Born, 1778)	Trough shell/duck clam	1	0,1%
Cypraeidae	<i>Luria lurida</i> (L., 1758)	Cowrie	1	0,1%
Mesodesmatidae	<i>Donacilla cornea</i> (Poli, 1791)	Wedge clam	1	0,1%
Conidae	<i>Conus mediterraneus</i> Hwass/Bruguère, 1792	Cone shell	1	0,1%
Pectinidae	<i>Aequipecten opercularis</i> (L., 1758)	Queen scallop	1	0,1%
Labridae	<i>Labrus cf. merula</i> (L., 1758)	Brown wrasse	2	0,1%
			1,735	100%

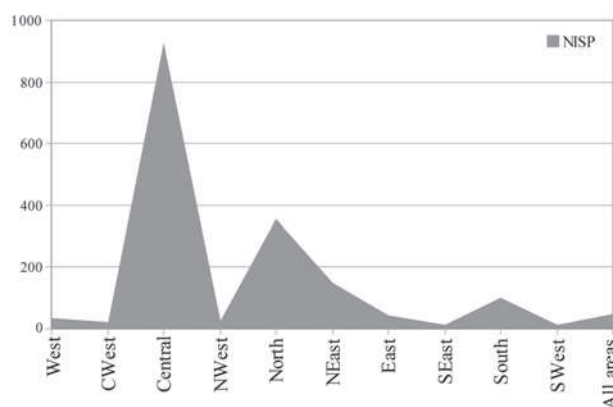


Fig. 4. Spatial distribution of shell remains in the adyton.

more than 96% of the material (Table 1 and Fig. 5a).¹⁹ This is a common edible bivalve species, found in sandy or muddy bottoms of shallow waters. Species from another twelve families, both bivalves and gastropods, contribute with only one to six individuals, with the exception of Nassariids (nassa mud snails or dog whelks), represented by 32 individuals. Most of the species are edible (topshells, limpets, mussels, Venus clams or carpet shells, dog cockles or bittersweets, scallops, wedge clams, trough shells, smooth Artemis clams), although some are not considered edible today or are too small in size and quantities to be considered as food remains

¹⁹ On the contrary, based on preliminary observations, other species, namely limpets, seem to be more common in other parts of the excavation, especially from the Hellenistic layers, see also Mazarakis-Ainian 2010, 41.

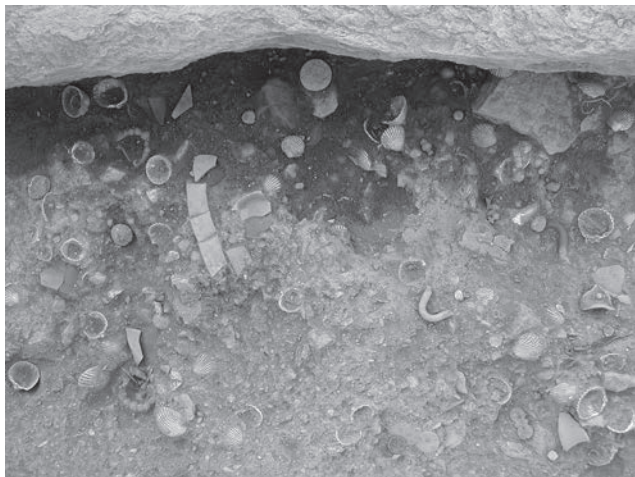


Fig. 5a and 5b. View of the shells in situ in the adyton and close-up. Photo: A. Mazarakis-Ainian.

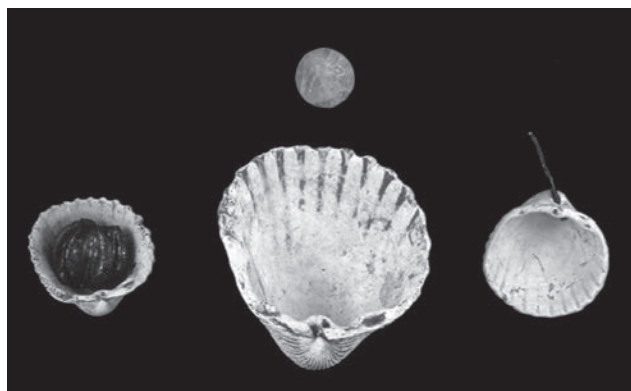


Fig. 6a (left) and 6b (above). Cockles with implements and metal wire in situ in the adyton and after cleaning. Photo: A. Mazarakis-Ainian.

(such as the dove shells, cone shells, cowries or dog whelks). Moreover, most of the Nassariid gastropods bear holes, thus indicating another use.²⁰ Among bivalves there is also a number of holed valves,²¹ and three of the holed rough cockles still preserved the gold, silver or bronze wire from which they were suspended, while others, non-holed, were found filled with small beads (Fig. 6a–b). Finally, two pharyngeal teeth of brown wrasse (*Labrus merula*) found in the adyton are the

²⁰ There are eleven perforated basket shells (*Nassa gibbosulus*) and one cone shell (*Conus mediterraneus*). Holed Nassariids are particularly common in tomb contexts from this period. See, for example, the holed specimens from the Amathous tombs in Reese 1992b, 123 and pl. XXV; from the Lefkandi tombs in Popham & Lemos 1996, pl. 61; Theodoropoulou forthcoming a.

²¹ 35 rough cockles (*Acanthocardia tuberculata*), one Venus clam (*Venus verrucosa*) and one bittersweet (*Glycymeris* sp.).

only fish bones recovered from the adyton. However, wrasse seems to be the only fish species that occurs in other parts of the sanctuary.

The spatial distribution of the marine fauna within the adyton may provide evidence for the use or arrangement of shells. Although seashells have been found all around the room, a certain spatial pattern may be observed, as the central and north/north-eastern areas yielded more significant quantities (Fig. 4 and Table 2).²² This concentration might be related to a specific way of depositing some of the shells, either some of them deliberately thrown into the room from the western entrance to the adyton (T1), or others gathered

²² Only few species (*Conus mediterraneus*, *Mytilus galloprovincialis*, *Donacilla cornea*) are restricted to either the eastern or southern parts of the adyton.

Table 2. Spatial distribution of marine animal remains within the adyton.

Family	West	C-west	Central	N-west	North	N-east	East	S-east	South	S-west	Not specified
Cockles	33	24	904	26	331	149	45	12	96	12	41
Dove shells				1	1						1
Cone shells									1		
Cowries			1								
Wedge clams							1				
Dog cockles			2		1						
Trough shells											1
Mussels				1	1	1			2		1
Dog whelks	2		12		15						3
Limpets			2		4						
Scallops			1								
Top shells			1								
Venus clams			2		1						1
Wrasse			2								
Total/area	35	24	927	28	354	150	46	12	99	12	48

in clay vases or other containers of perishable material, then placed in the central/north-eastern area of the room.²³ In fact, the latter may be assumed for some of the shells, those found in association with clay vessels (*Fig. 7a–b*).²⁴ On the other hand, it is not clear whether these shells had been deposited whole, with the animal still inside the shell, or if empty shells had been picked up (after consumption of the mollusc?) and put inside containers or thrown on the floor. Some clue to the first assumption is provided by the presence of paired valves in a number of samples.²⁵ As for cockles and other whole or perforated shells found in the periphery of the central area, close to the walls of the room, they could have also been part

of the *mis-en-scène* within the adyton, placed on shelves, attached to votive garments or hung from the walls or ceiling, or they may have been scattered all around during the final destruction of the temple.²⁶ Unfortunately, the spatial distribution of various shell species or holed and burnt specimens does not offer any further indication as to the possible concentration of particular types of shells in specific areas of the room. In this respect, it is not possible to suggest a more detailed arrangement regarding these finds.

Additionally, the complex architectural history of the temple makes it difficult to conclude on the original place, manner and time of deposition(s) of the marine fauna in the temple. As opposed to other types of archaeological finds, shells can only be dated from the context of recovery. Contextual data seem to confirm the deposition of shells in the temple along with the rest of the finds during the Archaic to early Hellenistic period of use,²⁷ although a primary deposition of some of the shells at the time of the rearrangement into the adyton cannot be conclusively excluded.²⁸ However, the question remains: what is the role of shells in a temple? Furthermore, if the shells from Kythnos were part of the re-

²³ Based on the observations made by the excavators (excavation reports), who note the scattered position of some shells close to the threshold of the adyton. They also noted high concentrations of shells in specific parts of the room. See also n. 24.

²⁴ Namely, 16 *Acanthocardia tuberculata* found inside a lekane from the destruction layer at the centre of the adyton, 83 *Acanthocardia tuberculata* in a large hydria close to the north wall of the adyton, and 21 *Acanthocardia tuberculata* recovered in association with (inside and scattered around) the body of a large vase close to the west wall of the adyton. Cf. Mazarakis-Ainian 2009, 292, fig. 5.

²⁵ The valve-pairing technique is based on the principle that the right and left valve of each bivalve only fit perfectly together if they belong to the same individual. In an archaeological assemblage it is possible to fit the two valves of the original one individual by separating all right and left valves from an identified species, then by successively comparing right valves with each left valve until perfect pairing of umbos is achieved (for details, see Koike 1979). A more detailed valve-pairing (cross-pairing of cockle valves from different areas of the space) is planned by the author.

²⁶ Mazarakis-Ainian 2005, 103.

²⁷ Mazarakis-Ainian 2009, 298–299. The adyton does not seem to have been used after the deposition of the deposit in question, Mazarakis-Ainian, personal communication. On the different shell composition in later periods, see n. 20.

²⁸ For such a scenario, see below, the section *Shells and other marine animals in Greek cult practices*.



Fig. 7a and 7b. Cockles found in association with clay vessels. Photo: A. Mazarakis-Aimian.

covered deposit from the old temple, their secondary transport into the inner chamber along with objects far more valuable is most significant. If we accept Hollinshead's view that "architectural modifications of temples to create inner chambers demonstrate a belated recognition of a particular need for security",²⁹ a point further underlined by a variety of valuable objects from the Kythnos deposit, the presence of these items, humble to the modern eye, needs to be evaluated in the light of ancient Greek religious customs.

Shells and other marine animals in Greek cult practices

Life in sanctuaries is far from being completely unveiled to modern scholarship. The diverse expressions of faith by worshippers in Greek sanctuaries range from well-defined communal rituals to more improvised, individual gestures, summarized by van Straten in three basic means to sustain a good personal relationship with the gods, prayer, sacrifice, and votive offerings, normally closely connected.³⁰ Within this complex world of cult, the role of shells and other marine animals is far from being well documented.

Animals in ancient Greek religion are traditionally seen in relation to sacrifice. According to Theophrastos, people sacrificed to the gods to honour them, to thank them for something, or to gain their favourable disposition, to ask for something they needed or to avert some misfortune.³¹ Modern scholarship has underlined the importance of blood sac-

rifice in Greek social and religious thought. There is a long list of sacrificial animals in Greek religion, but animals related to the sea are rarely mentioned.³² Fish sacrifice occasionally appears in ancient sources,³³ performed for Poseidon, Ino and Palaimon and occasionally for other deities (Hekate, Artemis, Apollo, Priapos, Pan) or heroes.³⁴ On the contrary, no proper sacrifice is related to marine invertebrates.³⁵ One might suggest that bloodless animals (*anaima*) would contrast with the idea of blood sacrifice and would thus not be considered adequate to be sacrificed to the gods, although this might be seen as a later, theological-philosophical distinction

³² Even if some animals appear as usual victims, such as cattle, sheep and goat, or pigs, there is no "official" repertoire of sacrificial animals; in fact, textual evidence suggests that the choice was larger, including equids, dogs or fish in certain cults, see *ThesCRA* I, 68.

³³ Burkert 1985, 55; Durand 1979b, 178–179.

³⁴ Lefèvre-Novaro 2010, 40–41, n. 18–24: such as the first tuna of the season sacrificed to Poseidon (Ath. 7.297e; see also Polyaeus *Strat.* 6.24) or the sacrifice of particularly large eels from Kopais to anonymous deities (Ath. 7.297d); to Ino-Palaimon (*Anth. Pal.* 6.223); to Hekate (Apollod. *FGrHist* 244 F 16); to Artemis (*Anth. Pal.* 6.105); to Apollo (Ath. 7.306a). There are several epigrams concerning fish sacrifices to the god Priapos in *Anth. Pal.* (6.89, 10.9, 10.14 and 10.16). On a dedicatory inscription with a relief from Parion showing a fish on an altar, associated to a dedication to Priapos by a guild of fishermen, see Frisch 1983, 10–14. On the unidentified fish *leukos* sacrificed to a goddess for abundant catches (Theoc. fr. 3 Gow), see Bodson 1978, 49, n. 20. On fish sacrifices to Poseidon, *ThesCRA* I, 87–88. See, also, the account of Rose 2000, 520–528, with regard to Aphrodite, Apollo, Artemis, Astarte, Athena, Berenike, Demeter, Hekate, Hera, Herakles, Hermes, Ino, Poseidon, Pan and the Nymphs, Priapos; cf. Bodson 1978, 49–51; Mylona 2008, 98. On fish sacrificed to heroes with other more usual offerings (first fruits, cattle, goat, pig, occasionally horse), see Rouse 1902, 10. On the later belief that "no fish is proper for sacrifice or dedication" (Plut. *Quaest. conv.* 729c), see Antonetti 2004, 171.

³⁵ With the exception of a slice of cuttlefish burned for the god Priapos (*Anth. Pal.* 10.16).

²⁹ Hollinshead 1999, 202.

³⁰ van Straten 1981, 65.

³¹ Quoted by Porph. *Abst.* 2.24.

in ancient Greek religion.³⁶ Alternatively, shells might represent food offerings accompanying the main sacrifice, which were also burned on the altar, before or after the sacrificial victim.³⁷ With regard to the Kythnian assemblage, there is no archaeozoological evidence of heavy burning, suggesting a contact with fire, which could support the idea of a deliberate burning of these animals, at least with their shell on. However, if this were the case of a singular ritual involving burning of marine unshelled molluscs, presumably accompanying other meats, it could be considered as a rather poor one as opposed to traditional sacrificial animals.³⁸ The subsequent discard of the shelled part of the animals inside the temple, and not in association with a hearth or altar, would also be a rather rare case.³⁹ However, the relative importance of a sacrifice of that kind within an island community, presumably actively involved in fishing and shell-collecting, cannot be weighted according to general standards known for Greek cult practices.⁴⁰

However, as Ekroth observes, “the ritual world of the Greeks encompassed possibilities to abridge distinctions, by providing the gods with offerings, which seem to have been more adapted to the human participants’ tastes than to those of the immortal divinities.”⁴¹ The everyday connection of the pious to the deities, on an individual rather than on a communal level, could be expressed in a variety of rituals that included animals and other foodstuffs, complementary to or independent of sacrifice, but less complicated and expensive and thus at times substituting for animal sacrifice, when the votaries were unable to make a greater offering.⁴² Common actions that accompanied prayer, to please or thank the gods,

or ask something in return, were the pouring of libations, the burning of incense, or the placing of food before a cult image or on an altar. As Gill has pointed out, bloodless offerings or depositions of the most various kinds of food are a common and well-known feature of Greek religion, possibly following an ancestral tradition.⁴³ They differ from other food related to sacrifice, in that they could include a variety of foodstuffs people would themselves have had to eat, which were simply set in a place, where the god was present to receive them, and they were not burned or thrown away.⁴⁴

These small, private offerings would be an everyday practice related to several deities or heroes. Burkert mentions an elementary form of gift offering to the gods, *aparchai*, the surrender of firstlings of food which the season brings (seasonal gifts, *horaia*), whether achieved by hunting, fishing, gathering, or agriculture.⁴⁵ Such offerings could be set down on a sacred spot where they were left. Ancient sources occasionally mention the deposition of marine first fruits rendered by fishermen, such as fish, a crab, the carapace of a lobster, or a sea snail, to various deities.⁴⁶ What seems to be a common feature in all these cases is the private character and the rather improvised, informal or personalized nature of the dedica-

³⁶ On a discussion on the lower and chthonian nature of marine animals, making them improper for consumption (Eleusinian mysteries, Pythagorians), see Lefèvre-Novaro 2010, 42. On animals and their bodies, see Durand 1979a. On the nature of marine animals in Plato and the Pythagorians, see Bodson 1978, 46. On the abstinence from fish (no reference to shells or other marine animals) see Garnsey 1999, 89; Nadeau 2006, 59–74. An allusion to the remote habitats of fish, making them improper for sacrifice can be found in Vernant 1979, 243.

³⁷ Burkert 1985, 68. Bruit-Zaidman (2005, 32) based on Hesiod, argues that earlier expressions of sacrifice included both blood and bloodless sacrifice.

³⁸ van Straten (1981, 68) cites the case of the women in Herondas’ fourth mimiambus (Herond. 4.14–16) who ask Asklepios to accept their simple animal sacrifice, a cock, as a side dish, since they are by no means well-off. He notes that “the theme of the poor sacrificer who apologizes for the exiguity of his gift by referring to his reduced circumstances also occurs in the votive epigrams in the Anthologia Palatina”. For instance, see the poor fish sacrifice to Artemis (*ten penichren thysien*, *Anth. Pal.* 6.105).

³⁹ For an overview, see the section *Shells, fish, sanctuaries and zooarchaeological research*, below.

⁴⁰ On a similar assumption about other regions, see Mylona 2008, 98.

⁴¹ Ekroth 2008, 87.

⁴² Gill 1974, 119, 132; Antonaccio 2005, 99–100.

⁴³ Gill 1974, 117–119, with references to the first expressions of this practice. Pausanias (5.15.10) mentions the ancient tradition of bloodless sacrifices, *arxaion tina tropen*, see Etienne 1992, 307, also on Iron Age bloodless sacrifices. Burkert (1985, 67) describes bloodless offerings as a characteristic of a simple, primitive peasant world. Although bloodless offerings are usually strictly connected to inanimate foodstuffs, namely of vegetal origin, there seems to be a flexibility as to its use, encompassing a wide range of foods. As Jameson (1994, 37) notes, “bloodless offerings are usually related to the theory of primeval, pure offerings, free of the taint of blood, but the strict limiting of offerings to vegetarian foods was in practice associated with sectarian groups following a distinct ideology”.

⁴⁴ Gill 1974, 117–119. Burkert (1987, 44) introduces the idea of abandoning a desired object, preferably food.

⁴⁵ Burkert 1985, 66–67; Burkert 1987, 44–46. On the same type of offering, as well as on the conversion of fish catches to valuable offerings (*tithe, dekate*), see Simon 1986, 282. As Rouse (1902, 58) notes, “on the Acropolis of Athens we find the fisherman, the breeder, and the farmer, before the Persian invasion”. On the possible presence of *aparchai* in Attic inscriptions, see Rouse 1902, 53, n. 9–10. Bodson (1978, 48) points out that it was normal for maritime Greek people, many of them fishermen, to pray and vow offerings to the divinities for a more abundant catch.

⁴⁶ Rouse 1902, 51, n. 14–15 and 58, n. 12; Bodson 1978, 48, n. 16: on gurnards, parrot-wrasse and shad for Priapos (*Anth. Pal.* 10.9); on a fisherman who vows his first catch to the nymphs of Syra (according to Rouse, “*IGA* 7, if rightly restored”); on fish to Artemis (*Anth. Pal.* 6.105); on a crab to Pan (*Anth. Pal.* 6.196); on the unusual behaviour of a fisherman, who only dedicates the carapace of a lobster to Priapos, and eats the flesh himself (*Anth. Pal.* 6.89); on a twisted seasnail to the nymphs of the caves (*Anth. Pal.* 6.224). Rouse also cites as firstlings the first tuna offered to Poseidon mentioned by Athenaios (Ath. 7.297c; see also Polyaeus *Strat.* 6.24), but these should rather be considered as proper *thysia*, see, for instance, Lefèvre-Novaro 2010, 40, n. 18.

tions, although sometimes festivals were organized on the occasion of firstlings.⁴⁷

A more well-defined expression of food offerings is called *trapezomata*, a term employed for gifts of raw meat placed on a table at the altar or in front of it, on the knees or hands of the cult statue or another statue of the divinity, or, less frequently, on the altar itself, while the sacrifice was taking place.⁴⁸ They could be left for some time before the statue, or they could be redistributed at the end of the ceremony, taken by the priests and religious functionaries, or, as criticized by Aristophanes, picked up by poor people.⁴⁹

Another ritual was the *theoxenia*, where the god was invited to a meal of human nature, after the actions at the altar had been concluded.⁵⁰ As opposed to the *trapezomata*, it was not necessary to have an animal sacrifice preceding the *theoxenia* and the food offered was cooked in a human way.⁵¹ The offerings were simple considering that it was a human edible meal, however, it was more easily available to the pious with moderate means than was animal sacrifice and at the same time, according to Jameson, it was more substantial and more dramatically effective than the donation of individual cakes, grains and fruits.⁵² Literary evidence mentions various foodstuffs, of the kinds eaten by humans, such as various types of meat, cakes, bread, cheese, eggs, fruits and vegetables, and wine.⁵³ Marine foodstuffs are not explicitly listed, although they might be implied in the description of tables “full of all

sorts of meats”.⁵⁴ Seafood are sometimes mentioned in connection to either public cult festivals⁵⁵ or private rituals,⁵⁶ but not within the boundaries of a temple.

As a whole, marine animals were rarely sacrificed and occasionally deposited as food offerings in specific occasions and to certain deities or heroes. They usually represent modest individual offerings. As such could be considered the cockle assemblage as well as other edible specimens from the Kythnian adyton, presumably originally placed before the statue(s) of the deity(-ies) worshipped inside the Kythnian temple, as *aparchai* or *trapezomata*. It cannot be said how long they had remained there, even if we assume that, at least according to modern appreciation of odours, a long display of non-emptied seashells within a closed space would have resulted in a repugnant smell.⁵⁷ If they had been taken by the temple personnel, one wonders why they would bring the empty shells back to the temple. Burkert describes the late practice of dedicating money corresponding to the value of food gifts, still called firstlings, put into the *thesauros* (offering box).⁵⁸ It would be tempting to see a primitive, “food”

⁴⁷ For instance, on poor fish sacrifice to Artemis (*ten penichren thysien*, *Anth. Pal.* 6.105). Fishermen often sacrifice or dedicate to Priapos and Pan, gods of opportunities and simple people, according to Bodson 1978, 48. See also Porph. *Abst.* 4.22 referring to a law of Drakon, according to which “the gods should be worshipped privately according to the ability of each individual, in conjunction with auspicious words, the firstlings of fruits, and annual cakes”. See also, Jameson 1994, 38. On festivals, cf. Burkert 1985, 67.

⁴⁸ Gill 1974, 123–132; Jameson 1994, 56; *ThesCRA* II, 225; Ekroth 2008, 97. Pausanias (9.19.5) mentions offerings simply set on the ground. On the offering of votive bowls filled with all sorts of food except fish to the Delian deity Brizo, Bodson 1978, 49, n. 22; Semos, *FGrHist* 396 F 4 (5).

⁴⁹ Gill 1974, 132, also citing Ar. *Plut.* 594–597 and 676–681; Jameson 1994, 37.

⁵⁰ *Theoxenia* is mostly related to Apollo (Delphi, Andros, Kallatis) or the Dioskouroi (Athens, Sparta, Paros, Tenos, Keos, and elsewhere), less often to Dionysos, Herakles or other deities, *ThesCRA* II, 225. On the bloodless sacrifice to Apollo, see Lykidou 2007, 87 with references.

⁵¹ Jameson 1994, 37; Bruit 1990, 172; *ThesCRA* II, 225–226; Ekroth 2008, 102. Veyne (2000, 4) suggests that *theoxenia* were mostly performed by the richest individuals.

⁵² Jameson 1994, 54–55.

⁵³ Bruit 1989, 20–21; Ekroth 2008, 98.

⁵⁴ For instance, Paus. 9.40.11–12 for an account of a table set beside the sceptre of Agamemnon at Chaironeia (Jameson 1994, 37); Bookidis *et al.* 1999, 44, n. 112. On the banquet offered in honour of Dioskouroi in the Prytaneion in the Agora of Athens, including serving of bread, fish and meat, see Jameson 1994, 47.

⁵⁵ For instance, Linders (1994, 77–79) mentions that no fish was served at the Poseideia on Delos, probably due to cultic rules, since it was served at the Eileithyiaia in the same month, during which the women celebrating had *tarichos*, salted fish. See also, Bookidis *et al.* 1999, 44 with references.

⁵⁶ A long and detailed inscription from Cos, late 4th to early 3rd century BC (*LS*, no. 177, lines 59–63), describes the ritual to be performed in honour of Herakles and the cult founder Diomedon's own family, including a sacrifice (*thuein*) on the 16th of the month Petageutnyos and the offering of hospitality (*xenismôn poiein*) to Herakles, and on the next day (the 17th) the offering of a fish fry (*apopyris*); see also Jameson 1994, 42. Similar offerings were offered every year to the hero Kylabras at Phaselis (Ath. 7.297e–f), possibly a *theoxenia* ritual according to Ekroth (2002, 178), while three fish alongside pastries were offered to Epikteta on Thera (*LS*, no. 135, line 83), see Lefèvre-Novaro 2010, 41, n. 27–29; Mylona 2008, 135. A distinct category was the *deipna Hekates* (dinners of Hekate), the deity of the three roads (*triadoi*), which included the deposition at *triadoi* of red mullets (*triglai*) and picarels (*mainis*), see Jameson 1994, 38; *ThesCRA* II, 229–231; Ath. 7.325d). Also during the Amphidromia, a feast on the occasion of the birth of a child, among other foods it was a custom to eat cuttlefish, picarels, and octopus tentacles, see *ThesCRA* II, 234; Ath. 9.370d and 2.65c). On the absence of fish from the ritual meals (*kopidia*) of the Spartan Hyakinthia as opposed to their consumption as an extra course in the civic meals (*phiditia*) of the same festival, see Bruit 1990, 163.

⁵⁷ Food offerings deposited in sanctuaries usually were taken by the priests as a sort of payment, unless specified that they should remain to dry on the spot, *ThesCRA* II, 225. Gill (1974, 132) cites Pausanias (9.19.5), who describes of one case where the fruit offered in the shrine of Demeter at Mykalessos lay before the statue of the goddess for a whole year, but notes that the instance is an unusual one.

⁵⁸ Burkert 1985, 68.

phase of this practice in the shell assemblage from Kythnos. Another alternative, although less plausible, is that the use of these shells might be related to a ritual consumption of the *theoxenia* type. It could be hypothesized that the cockles from the adyton might represent food waste of a ritual meal that would have taken place inside or outside, and then empty shells would have been ritually gathered to be kept inside the temple.⁵⁹ The procedure that preceded the consumption of molluscs is not known, as cooking methods rarely leave any traces on the hard shell of the mollusc.⁶⁰ Molluscs, especially bivalves, can be eaten raw or cooked. If seashells had formed part of what was considered meat consumed in ritual occasions, cooking might have actually occurred, as most meat eaten at ritual meals seems to have been boiled, a cooking method eliminating distinctions in origin and status between the animals and transforming all their meat into sacred meat.⁶¹

In both scenarios regarding edible flesh of shells, deposited either as food offerings or as remains of a ritual meal, the conditions of consumption inside the temple and the connotations of their secondary transport into the adyton with the rest of the finds from the original temple are not easy to interpret.⁶² Furthermore, it is equally possible that cockle shells are not related to food, but rather represent accumulated individual votives, such as the ones present in examples from Del-

phi or in the Delian Artemision.⁶³ A purely votive function might be easier to assume for the holed shell specimens from the adyton. Votive offerings form an integral part of the relation of the pious with the gods in ancient Greek religion. The perforated bivalve and gastropods could have been offerings or amulets, or they would have served ornamental purposes, decorating the walls, furniture or deposited/ritual garments originally deposited in the cella, then transferred to the adyton. Some of them are elaborately transformed into valuable objects, threaded with gold, silver or bronze wire. Others, simple unmodified shells, might have been part of what is defined by Kyrieleis as *naturalia*, modest offerings deposited to the deity as natural curiosities.⁶⁴ The unique or repeated event of deposition of the shells cannot be proved, but the rather diversified nature of the assemblage suggests that shells were possibly accumulated through time and at different occasions. The varied nature of the finds may suggest different status, sex and profession of the dedicators.⁶⁵ Yet, what seems to remain a constant theme is the connection to the sea since the dedications consist of shells.

It is not easy to elaborate further on any of these aspects, as archaeological evidence on the worshippers is usually lacking. However, a few comments proposed by the excavators with regard to the identity of the pious at the Kythnian sanctuary seem to confirm a certain tie to the sea. Beside the obvious suggestion that several Kythnian worshippers would have been local fishermen, the varied and often remote or antique nature of the non-shell adyton finds may suggest that the sanctuary was visited by seafarers and travellers, but also reveals the wealthy situation of some of the locals.⁶⁶ The numerous coral objects or unmodified corals from the same deposit may also be ascribed to the group of items with marine connotations. The question is: how do the identities of the worshippers fit with the shell deposits? More importantly, how do the high-quality, prestigious offerings go together with seemingly humble shells, and why did they choose to

⁵⁹ Tomlinson (1992, 337 and 346) suggests that in Geometric times ritual feasting was confined to the temple area and that after drinking and eating the participants left behind the used vessels for the god. He argues that not everything deposited in a sanctuary is an offering. In some cases, pits used for cooking close to where the dining took place were filled with the debris from dining, as well as with cooking ware and votive gifts, and the deposit was sealed after the ceremony was concluded, see Ekroth 2003, 83; Bergquist 1998, 41–47. However, the latter evidence is rather connected to kitchen and dining functions, activities concluding sacrifices. On the idea of “no carrying away” of the food at *theoxenia*, see Jameson 1994, 56.

⁶⁰ Raw consumption could be achieved by simply opening the valves of the cockles with a pointed tool. There are no distinctive or repetitive traces of such tool marks on the specimens from the Kythnian assemblage. Cooking, usually boiling or steaming, of these molluscs is also possible, but it is extremely difficult to distinguish such procedures on archaeological specimens, as cooking only takes a few minutes and there is no direct contact with fire, thus the shell is not altered. On the other hand, the presence of burnt shells in archaeological assemblages is usually associated with the post-consumption direct contact with fire of the discarded shells. Direct contact with fire would have rendered the flesh of molluscs inedible, Theodoropoulou 2007, 78–79.

⁶¹ Boiling of the meat constitutes a link to the concept of equality, see Ekroth 2008, 99. For an overview of sacred vs. sacrificial meat, see Ekroth 2007, 249–272. On the notions of sacred and secular, see also Veyne 2000, 3–42.

⁶² Association to altars, hearths, dumps or dining facilities related to a sanctuary would be more plausible, see also the discussion in Rose 2000, 535–536.

⁶³ Amandry 1984, 378–380. The example of the Delian Artemision is not well described, but according to Bevan (1986, 134) the presence of seashells along with other votives may suggest a similar use for these finds. See the section *Shells, sanctuaries and the zooarchaeological record*, below.

⁶⁴ Kyrieleis 1988, 219; see also Gebhard 1998, 108; on unmodified branches of coral from the Kythnian adyton, see Theodoropoulou forthcoming c.

⁶⁵ On the importance or not of these factors in the choice of the offering, see Antonaccio 2005, 100–101.

⁶⁶ Mazarakis-Ainian 2009, 303–305. With respect to the latter, Mazarakis-Ainian (2009, 305) notes the unique assemblage of metal objects and recalls the metal mines of the island. See also Mitsopoulou 2010, 43–90.

include them in the secondary deposition of objects from the original temple into the newly built adyton.⁶⁷

Hollinshead, among others, notes that “temples and sanctuaries were filled with votive gifts ranging from modest terracotta figurines to inlaid chests, from garments to gold crowns”.⁶⁸ With regard to the Kythnian assemblage, only a small part of the material from the adyton must have been destined for the continuous performance of cult rituals in the sanctuary.⁶⁹ Most of the objects must have been votive offerings while open pottery vessels were possibly used for storage of necklaces and other jewels, and some of the pins and fibulae are probably associated with the cult statue or votive garments.⁷⁰ In this respect, the various holed shell objects, both the simple ones and those threaded with metal wire, may be viewed as votive gifts from the Archaic to Hellenistic period of use of the temple, dedicated by worshippers of various identities. Recognized as such, care would have been taken to pick them up from the debris after the destruction along with the rest of the votives, and to replace them in a sacred context, as everything that was dedicated to the deity would remain the deity’s property. Even if the dedication of shells did not persist to be recognized as typical cult practice by late 3rd century users, their association to the temple and the rest of the debris might have attributed them a sacred identity due to ancestry.⁷¹

On the other hand, if the dense concentrations of finds from inner rooms may be seen as accumulations of votive gifts, as suggested by modern literature,⁷² the presence of food offerings or remains of ritual consumption (if this is what the numerous cockle valves from the adyton are), does not seem to fit with the rest of the finds, especially as a selection of objects seems to have taken place, as suggested.⁷³ The presence of other animal debris in the same space seems to support the idea of a food or sacrificial deposit of some kind. The nature of the bone finds would potentially help understand the presence of the edible shell assemblage from the adyton.⁷⁴ The gathering of such a deposit from the destroyed temple to be kept in the adyton might, as in the case of votive shell specimens, be driven by the recognition of their ritual role by later users of the sanctuary. If not, a rather bold hypothesis could be formulated as an alternative to the secondary

deposition with the rest of the finds, namely that, contrary to the rest of the finds originating from the first phase of use of the temple, the edible shells might represent a deposition of food, either sacrificial or ritual or depositional, which might have occurred at the time of the rearrangement into an adyton, subsequently not reused.

Summing up, the nature of the shell deposit from the adyton of Kythnos is a rather atypical and diverse one. Despite occasional references in ancient sources on the use of marine animals for ritual or votive purposes, there is no concrete evidence of a well-defined or repeated ritual expression encompassing seashells, fulfilling the Durkheimian sense of a ritual as functional to the integration of the group. On the other hand, the adyton assemblage as a whole is far from being a uniform one. Mazarakis-Ainian concludes that “although certain categories of offerings could be strongly associated to specific deities and cults, it would have been accepted to offer such offerings to gods with similar attributes, but in different quantities. Furthermore, it is possible that not all of the dedicators were completely familiarised with the dedicatory principles of every cult”.⁷⁵ As modern scholarship acknowledges, the choice of the offering was not determined by fixed rules, neither need it simply reflect the character of the deity or require votaries to mechanically reproduce formulas, especially on an individual level.⁷⁶ As stated by Porphyrios, mentioning a law of Drakon, “the gods and heroes should be worshipped publicly conformably to the laws of the country [...], but also, they should be worshipped privately according to the ability of each individual”.⁷⁷ In this respect, it can be argued that votives are more sensitive indicators of cultic categories.⁷⁸ An offering would fit into a coherent system of communication, formulated within the specificity of every cult place.⁷⁹ In the following, the nature of the cult in the Middle Plateau at Kythnos and possible links to specific deities and cults will be explored.

The fisherman, the god and other marine stories in Greek religion

The discussion on the nature of the deposit goes hand in hand with the identity of the cult. There are no conclusive suggestions as to the identity of the divinity venerated in the sanc-

⁶⁷ Mazarakis-Ainian 2009, 306 and n. 94.

⁶⁸ Hollinshead 1999, 209; van Straten 1981, 78.

⁶⁹ Mazarakis-Ainian 2009, 291, especially a bronze phiale, possibly used for libations.

⁷⁰ Mazarakis-Ainian 2009, 291–292.

⁷¹ On the multiplicity and changing categories of votives over time and space, active in constituting cult, see Antonaccio 2005, 100.

⁷² Hollinshead 1999, 202.

⁷³ See nn. 14–16.

⁷⁴ Study in progress by Dr K. Trantalidou.

⁷⁵ Mazarakis-Ainian 2009, 311–312.

⁷⁶ de Polignac 2009, 33, 35.

⁷⁷ Porph. *Abst.* 4.22; Pirenne-Delforge 2009, 333.

⁷⁸ Antonaccio 2005, 100.

⁷⁹ de Polignac 2009, 36; Antonaccio 2005, 100. On the diversity of the zooarchaeological evidence related to sacrificial animals as offerings in various cities and rituals, see Leguilloux 1999, 423–424.

tuary of the Middle Plateau, for the few graffiti found on the site do not point to a clear identification.⁸⁰ On the basis of the nature of the votives from the site and literary evidence on the history of the island, a female divinity could be suggested, possibly Artemis or Aphrodite,⁸¹ although other deities, such as Demeter, Athena or Hera are possible candidates.⁸² The character of the goddess can be related to fertility and vegetation,⁸³ while a prophylactic-magical⁸⁴ and chthonian-oracular⁸⁵ power is also suggested by the finds. At the same time, a simultaneous worship of a male deity in the same sanctuary, possibly Apollo, is not excluded.⁸⁶

The marine character of the studied assemblage invites a thorough investigation of the potential connection of Greek deities with the sea world. Among the Greek gods, besides Poseidon, two major female deities, Artemis and Aphrodite, are often linked to water or a marine environment. This seems to corroborate the rest of available data on the worshipped deity, presented above. Artemis, like Apollo, appears on the Kythnian coins of the Hellenistic period.⁸⁷ The goddess of wild nature is also connected to water. Her power encompassed areas where land and water met,⁸⁸ such as lakes (*Limnaia*), marshes (*Limnatis*), shores (*Paralia*) and harbours (*Limen-*

itis, *Limenoskopos*).⁸⁹ Although mostly associated with fresh-water sources, she has a connection to the marine element through the marine powers attributed to her, as protector of the wild shores, bays and creeks, and the human activities undertaken there (such as marine voyages and ships, *Euporia*, *Neossoos*, *Ekbateria*).⁹⁰ She is traditionally considered as *Potnia theron*, a mistress of deer, lions and other animals, but she also protected aquatic birds, snakes, turtles, frogs and fish,⁹¹ and the latter were not to be fished from waters sacred to the deity.⁹² The deity is sometimes accompanied by fish motifs in representations, or even depicted as half-woman, half-fish.⁹³ Although Artemis received animal sacrifices, her cult in some sanctuaries, such as the one in Aulis, may have included rituals and bloodless offerings placed on *trapezai* (cult tables).⁹⁴ Menis, a net fisher, offers Artemis Limenitis a grilled red mullet (family *Mullidae*), a wrasse (family *Labridae*), a cup of wine and bread, asking in return that she grants full nets.⁹⁵ This dedication is particularly interesting in the light of pharyngeal teeth of brown wrasse found in the Kythnian adyton.⁹⁶ In the light of the aforementioned elements, fish and marine invertebrates, especially rough cockles found in shallow sandy or muddy coastal bottoms, might have represented food of-

⁸⁰ Mazarakis-Ainian 2005, 101, n. 84.

⁸¹ The cult of Aphrodite is suggested by a 4th century BC inscribed base found near the ancient harbour; for more evidence regarding her worship on the island, see Mazarakis-Ainian 1998, 363 and 373.

⁸² Mazarakis-Ainian 2005, 100–101. For instance, the female identity of the deity is based on a number of finds, such as pins and fibulae that possibly adorned a cult statue or votive garments, other pieces of jewellery, as well as perfume and oil vases (*hexaleiptra*, *kothones*), Mazarakis-Ainian 2009, 295–296. On a lost inscription from Kythnos mentioning “Artemis Hekate”, a Corinthian alabastron with a depiction of a *potnia* with swans, as well as a general discussion on the worship of female deities on the island, see Mazarakis-Ainian 2009, 300–302.

⁸³ Based on the frequent presence of the lotus flower, pomegranates and other fruit and flower motifs from necklaces and other jewellery, Mazarakis-Ainian 2009, 296.

⁸⁴ Based on the presence of various amulets, seals, semi-precious stones and scaraboids, some of which dated back to the Bronze Age, as well as corals. With regard to the latter finds, note the interesting association of a marine material with prophylactic powers (Plin. *HN* 32.24), providing, according to Mazarakis-Ainian 2009, 298–299, one more strand of evidence for the relation of the sanctuary with the sea.

⁸⁵ The 32 astragali may relate to *astragalomanteia* and, in general, to the cult of female deities, like Aphrodite, but also male ones, such as Apollo: Mazarakis-Ainian 2009, 299, n. 49 and 302, 53 with references. See also n. 84.

⁸⁶ His name is mentioned on a dinos and two statue bases, Mazarakis-Ainian 2009, 293, 301. Also, Apollo and Artemis are depicted on Hellenistic Kythnian coins, Mazarakis-Ainian 1998, 372. Judging from a votive relief, Asklepios was probably also worshipped on the island, possibly in connection to the hot springs located at the bay of Loutra, see Mazarakis-Ainian 1998, 378, n. 121.

⁸⁷ Mazarakis-Ainian 2005, 101.

⁸⁸ Morizot 1999, 271; for a general introduction, see Morizot 1994, 201–216.

⁸⁹ *LGRM*, 559–562; Bevan 1986, 131, n. 4; Morizot 1994, 205.

⁹⁰ Morizot 1994, 206.

⁹¹ Burkert 1985, 149; Morizot 1994, 202; Fischer-Hansen & Poulsen 2009, 42. See also the discussion in Rose 2000, 522. On the fish being sacred to Artemis, as well as Roman representations of Artemis with fish, see *LGRM* I.1, 561. The chthonian theme of *Potnia theron* is also discussed by Stanzel 1991, 161, in his account of animal remains from the sanctuary of Apollo and Artemis in Kalapodi (Boiotia). The same role is, however, also attributed to other goddesses, such as Athena, in whose sanctuaries occasional fish dedications are recorded, see Bevan 1986, 134–136.

⁹² Lefèvre-Novaro 2010, 41, n. 26 (Diod. 5.3.5–6), the same tradition related to Poseidon (Paus. 3.21.5) and Hermes (Paus. 7.22.4); while priests of the sanctuary of Demeter at Eleusis had special fishing rights in the sacred river Rheitoi (Paus. 1.38.1); Bevan 1986, 132; Mylona 2008, 132. On sacred fish, see also Burkert 1983, 210. On a discussion on the role of Artemis as *Potnia ichthyon*, see Picard 1922, 60; Bodson 1978, 49; on sharing a cult with her brother Apollo Delphinios, and her association to the Cretan deities Diktynna and Britomartis, as well as a Bronze Age tradition, see Boulotis 1989, 60 and n. 32; Laffineur 2001, 390–391. On the possibility of use of fish from “sacred waters” in dining, sacrifice, divination or other activities in sanctuaries, see Mylona 2008, 98.

⁹³ On fish votives related to Artemis, see Bevan 1986, 133, 135–136 and 400–401. On the passage from Pausanias (8.41.4) describing the *xoanon* of the goddess Eurynome with a fish-body in a difficult-to-access sanctuary near Phigaleia, cf. Morizot 1994, 207. Artemis is often identified in the minor deity Eurynome with the body of a woman and a fishtail, Lefèvre-Novaro 2010, 43.

⁹⁴ Gill 1991, 47. See also n. 32.

⁹⁵ *Anth. Pal.* 6.105. The red mullet was the sacred fish of the goddess, Bodson 1978, 52, n. 49 (Ath. 7.325a–d; Eust. *Il.* 20.73 (van der Walk, vol. 1, 138, lines 16–17); Antonetti 2004, 168.

⁹⁶ For *phykis* translated as wrasse, see Thompson 1947, 278.

ferings to a deity related to waters and shorelines, possibly as firstlings deposited by fishermen/collectors praying for abundant catches,⁹⁷ as the goddess was said to be helpful to fishers (Artemis Limnatis).⁹⁸ On the other hand, the absence of other objects from the adyton related to fishing activities, often deposited in other sanctuaries, is noticeable.⁹⁹

At this point, it is worth recalling the understated marine nature of Apollo, usually co-worshipped with Artemis, and possible male deity in the Kythnian sanctuary. Miller stresses that, although Apollo was never considered a god of the sea, in the same sense that Poseidon was, he bears a few maritime titles and was hailed by seafarers, fishermen and colonials.¹⁰⁰ Thus, he was hailed by the Lokrians as “god of the islands” (*Nasiotas*) and as “god of the coasts” (*Aktios*) by inhabitants of Lefkada and the Ambracian Gulf, described as the “god of the broad sea” (*Euryalos*) by Hesychios, prayed to by the sailors when they set sail and consulted through his oracles regarding proposed sea voyages.¹⁰¹ He was also described as the “fish-eater” protector god of Elis,¹⁰² and, like Artemis and other gods he had a sacred species,¹⁰³ and owned sacred fish in Lycia, used for oracular purposes by his priests (*ichthyomanteia*).¹⁰⁴ In this respect, it would not be inappropriate to suggest a combined worship of the “marine nature” of the twin gods, Apollo-Artemis, within the same sanctuary.¹⁰⁵ The sea has always been considered as a particular habitat, unfamiliar and hostile to human life. At the same time, people in antiquity depended on the sea for their survival and communication. Apollo and Artemis, often described as the Lord and Mistress of wild nature, animals and hunting, may have played the role of mediators between the sea and the humans, ensuring safe journeys for mariners or abundant catches for fishermen.¹⁰⁶ Moreover, this marine hypostasis could be

wrapped up with a more chthonic dimension, suggested by the nature of the deities and the physical element.¹⁰⁷

Let us turn to Aphrodite, as a possible receiver of the shell offerings from the Kythnian adyton, as the deity is believed to have had her place in the list of worshipped deities on Kythnos.¹⁰⁸ This deity is said to have emerged from the foam of the sea. Yet, Aphrodite’s power over the sea was more than a maritime association by birth, she was also approached for her abilities to calm and assuage troubled waters.¹⁰⁹ Thus, Aphrodite was given many maritime titles in antiquity, such as “goddess of the fair voyage” (*Euploia*), of harbours (*Limeneia*), of the sea itself (*Pontia*),¹¹⁰ and was worshipped by merchants, ship-owners and seafarers, while fishermen, women and men who laboured on the sea would come to Aphrodite’s temple in some regions.¹¹¹ The deity also had a close connection to the marine animal world.¹¹² The goddess was said not to receive marine creatures as sacrifices, because they were sacred to her,¹¹³ but in some places worshippers would eat fish on Friday, sacred day of the goddess, in an effort to

⁹⁷ On this type of offerings, see Burkert 1985, 66. On Artemis being the protector of hunters and fishers and the deity of fertility, see Miller 1939, 58; Bevan 1986, 131.

⁹⁸ Bevan 1986, 131 (Artem. 2.35), and associations with Diktyнна.

⁹⁹ For instance, Rouse 1902, 71. For examples from Ionian sanctuaries, see Simon 1986, 274–276; cf. Mylona 2008, 137–138.

¹⁰⁰ Miller 1939, 41; *LGRM* I.1, 430; on fish sacred to Apollo, see Thompson 1947, 114 (Ath. 7.306a).

¹⁰¹ *LGRM* I.1, 440; Miller 1939, 41.

¹⁰² Ath. 8.346b.

¹⁰³ *Kitharos Apollonos*, see Thompson 1947, 114; Bodson 1978, 52, n. 48 (Ath. 7.287a and 7.306a). On sacred fish in various regions, see Antonetti 2004, 168.

¹⁰⁴ Ael. *NA* 7.1, Plin. *HN* 32.17; Lefèvre-Novaro 2010, 44, n. 52–53. On fish owned by gods, Bevan 1986, 132. On the deposition of daily offerings to Apollo on Delos, see Jameson 1994, 38.

¹⁰⁵ Plutarch (*De soll. an.* 984a) links together as sea gods Apollon Delphinios and Artemis Diktyнна, cf. Bevan 1986, 141.

¹⁰⁶ Laffineur 2001, 391.

¹⁰⁷ In the Greek Anthology, Damis, a fisherman, offers Apollo a trumpet shell and asks for death without disease (*Anth. Pal.* 6.230). On the chthonian nature of the two gods, see Stanzel 1991, 161. On the chthonian nature of the sea, Lindenlauf 2004, 416–433.

¹⁰⁸ On a detailed discussion of textual and archaeological evidence (marble statue of Aphrodite Anadyomene and an inscribed base dedicated to her) relating Aphrodite to Kythnos, see Mazarakis-Ainian 2005, 100–101.

¹⁰⁹ *LGRM* I.1, 402; Pirenne-Delforge 1994, 433–437; Parker 2002, 151; Demetriou 2010, 67–89.

¹¹⁰ For instance, at Hermione lay a temple of Aphrodite Pontia and Limenia (Paus. 2.34.11), where the goddess was possibly worshipped by the inhabitants of the coasts of this region, called *Halieis thalattourgoi* (fishermen who work on the sea), according to Pirenne-Delforge (1994, 186–187), who suggests a closer relation of Limenia to the coastal activities and production (also recalling the purple dyeing activities in the region), while Pontia would be more related to the maritime trade and travels. For an extensive account of the marine identity of the goddess, see Demetriou 2010, 67–89.

¹¹¹ *LGRM* I.1, 402; Giuffrida 1996; Parker 2002. On Roman representations of the marine Aphrodite in Gersht 2001, 63–71. On her worshippers, Demetriou 2010, 73, 76–78. For other textual references, see Rose 2000, 523. On the Bronze Age tradition of this connection, see Boulotis 1989, 60; Laffineur 2001, 391.

¹¹² Plut. *De soll. an.* 983e–f; Simoons 1994, 206–207 and 276; Pirenne-Delforge 1994, 417–418.

¹¹³ Due to her birth in the sea, but also possibly from the myth of the birth of Astarte, in which the goddess was born from an egg carried to the banks of the river Euphrates by fish, Rose 2000, 522. See also Rose 2000, 527, on the connection of Priapos, son of Aphrodite, to fishermen and related offerings.

share in her fecundity.¹¹⁴ Sacred fish of the goddess were the gilthead sea bream (*Sparus aurata*) and the pilot-fish *pompilos*.¹¹⁵ Shells were also thought to be sacred to Aphrodite and were in some regions associated to her worship.¹¹⁶ Especially, the scallop and the cockle were often depicted in her birth scene, as the deity emerged from one, while others were given her name.¹¹⁷ Some shells were regarded as aphrodisiacs or were referred to as *lubrica conchylia* (sexy shells) by later sources.¹¹⁸ In fact, the half opened bivalve shells, such as the cockles of the assemblage, but also scallops, Venus clams, and the cowrie gastropods are believed to represent a woman's genitalia across many cultures.¹¹⁹ According to Demetriou, Aphrodite's maritime function is not unrelated to her role as a goddess of sexuality, as also suggested by the custom of brides to sacrifice to marine Aphrodite.¹²⁰ Thus, offerings of

shells to this deity might be related to prayers for a safe journey in marriage, birth, or fecundity.¹²¹

This last comment evokes another divine couple of deities, Demeter and Kore, both present on the island of Kythnos.¹²² The connection of the goddesses of agriculture and fertility to fish is occasionally attested by literary sources that mention the consumption of fish during festivals, possibly also during more family-oriented, private rites to Demeter and Kore.¹²³ The description of the Haloa festival provided by a scholiast to Lucian, where tables were filled with the fruits of land and sea provides another indirect evidence of the connection of these traditionally land-connected deities with the sea.¹²⁴ On a more symbolic level, the chthonian character of the deities might have been related to the remote, dark world of the sea.¹²⁵ However, another chthonian deity, Hekate, a deity said to be helpful to mariners, fishermen, and herds-men, is more directly connected to the sea element, as she was related to abundant catches for fishermen, and fish are associated with rituals attributed to her.¹²⁶ A number of other deities, such as the Dioskouroi and minor nature deities including the Nereids, the Nymphs, and the Old Men of the Sea (Proteus and Glaukos), feature among the gods who represent the sea and its creatures, but there is no evidence thus far linking these deities with Kythnos.¹²⁷ However, a special mention needs to be made of the legend on the sacred escort fish (*pompilos*) especially honoured among the Samothracian

¹¹⁴ Dunnigan 1987, 346; Simoons 1994, 271; Lefèvre-Novaro 2010, 41, n. 31. There is usually clear distinction between sacred and sacrificed animals (for instance, Lefèvre-Novaro 2010, 41, n. 26), but Burkert (1983, 205) with respect to fish notes that in Near Eastern cults (for example, Atargatis) fish were not eaten not because they were holy, but rather they were holy because they were eaten in a sacred sacrificial meal by the priests of the deity in the company of the goddess. On sacred fish not being eaten in Greek mythology and ancient sources, see Bodson 1978, 51; Burkert 1983, 209–210. The presence of pharyngeal teeth of brown wrasse (*Labrus merula*), the only fish bones present in the sanctuary, is of note.

¹¹⁵ Thompson 1947, 208–209 (Ath. 7.328a); Bodson 1978, 52, n. 50 (Archip. fr. 18 Kock; Callim. *Carmina epica* 378 Pfeiffer; Eratosth. fr. 12.3 Powell); on *pompilos*, *zoon erotikon* born at the same time with Aphrodite from the blood of Ouranos, accompanying boats to safe harbours, Pirenne-Delforge 1994, 418 (Ath. 7.282f). Several species are attributed to this animal, such as *Naucrates duxtor*, but the name was also given to a shoal of tunnies (Thompson 1947, 208).

¹¹⁶ For instance at Knidos.

¹¹⁷ Karouzou 1971, 122–124; Cottrell 1980, 130; *LIMC* II.1 1984, 103–104 and 116–117, s.v. Aphrodite: “Aphrodite in der geöffneten Muschel” 1011–1017, “Geburt aus der Muschel” 1183–1185, “Aphrodite auf einer Muschel übers Meer fahrend” 1186–1187 (A. Delivorias). There is only one Roman literary source associating shells with Aphrodite's birth (Plaut. *Rud.* 704; Flory 1988, 500, n. 12), but according to Simon (1959, 42, pl. 27), the seashell carrying the newborn Aphrodite is known as an artistic motif from the 4th century BC onwards. Also, note the name *ostrakis* given to a statuette of Aphrodite, according to Hesychios, s.v. *ostrakis*. On the *ous Aphrodites* (Aphrodite's ear), the *Halotis* shell, Ath. 3.88f and Hesychios, s.v. *ous Aphrodites*.

¹¹⁸ Dalby 1993, 300 (Hor. *Sat.* 2.4.30); Voultsiadou 2010, 240.

¹¹⁹ According to Baring & Cashford (1993, 356) the word *kteis*, means both seashell and female genitals.

¹²⁰ Demetriou 2010, 70 and 81.

¹²¹ In the prayer dedicated by Selenia in Aphrodite's temple in Arsinoe (Ath. 7.318b; Callim. *Epigr.* 5, ed. Pfeiffer = *Epigr.* 14, ed. Gow-Page), the bride symbolizes her safe journey in marriage with a nautilus shell, Gutzwiller 1992, 198–209; Demetriou 2010, 74 and 82, n. 87. Money and other valuable offerings, related to rich trade and commercial profits, or votive anchors were dedicated to Aphrodite by seafarers. Simon (1986, 283) relates the dedication of scallops to fertility. On a similar assumption regarding shells found at Zeytin Tepe, see Peters & von den Driesch 1992, 123.

¹²² Mitsopoulou 2010, 43–90.

¹²³ Fish were eaten at the Thesmophoria (Ath. 3.104e–f); Simoons 1994, 276, n. 161; Bookidis *et al.* 1999, 44. On private rites including the consumption of pigs, piglets and fish, Gebhard & Reese 2005, 140–141.

¹²⁴ Bookidis *et al.* 1999, 44, n. 112; schol. ad Lucian *Dial. meret.* 7.4 (Rabe p. 280.20–22).

¹²⁵ On a Minoan gem engraved with a fish found at the sanctuary of Demeter at Knossos, possibly dedicated to chthonian Demeter or Kore, see Bevan 1986, 137.

¹²⁶ Thompson 1947, 257–268; Bevan 1986, 131; Larson 2007a, 165; Lefèvre-Novaro 2010, 40, n. 21 (Hes. *Theog.* 440–443). Her sacred fish was the red mullet, like Artemis, often dedicated at the dinners of Hekate, see Bodson 1978, 52; *ThesCRA* II, 229–231.

¹²⁷ Larson 2007b, 68–69. On several examples from the Near East, see Burkert 1983, 104–112.

gods, who also had a place among cults performed on the island of Kythnos.¹²⁸

Waiting for more evidence from the Kythnian sanctuary to reveal its divine hosts, and in the absence of more concrete textual or iconographic evidence on the connection of one or another deity with marine animals and related rituals, any suggestions on the divine recipient of the shells from the adyton are difficult to prove. Some insight might be provided from direct comparison with relevant faunal evidence from similar contexts. In the following paragraphs, available comparanda from the Greek world will be encoded in an attempt to find possible recurrent behaviours with regard to shells among ancient Greek sanctuaries.

Shells, fish, sanctuaries and zooarchaeological research

Zooarchaeological studies from sanctuary sites have increased over the last years.¹²⁹ They usually focus on sacrificial deposits and the “usual” sacrificial animals, accrediting rituals described by ancient texts. Within this increasing “sea of evidence” shells and fish bones do not usually feature among frequent or abundant types of zooarchaeological finds, especially when compared to similar deposits from non-cult sites.¹³⁰ Thus, investigating available data on marine faunal remains from sanctuary sites becomes particularly valuable in the light of the shell assemblage from Kythnos.

Further considering the possible venerated deities on Kythnos, some of the studied cultic contexts from the Aegean that included shells are indeed related to Apollo and Artemis. Little is known of shell remains from one of the more prestigious sanctuaries related to the cult of Apollo and Artemis in the Cyclades, on Delos. Old reports on the excavations of the Delian Artemision mention the presence of shells (without any further identification), found togeth-

er with pieces of gold, ivory, bronze, and animal bones, and interpreted as votive offerings.¹³¹ A small shell assemblage is related to the cult of Artemis and Apollo at Kalapodi (Boiotia). Almost 100 individuals from 13 marine taxa were found in all strata, yet only few belong to the Geometric-Archaic levels, among which are several individuals of the *Cardiidae* family.¹³² Some shells had been modified and Stanzel suggested that these had been dedicated by worshippers.¹³³ Only two fish bones of freshwater species were retrieved from post-Mycenaean levels, associated with either sacrifice or ritual dining.¹³⁴ The Artemision of Ephesos yielded similar numbers of shells.¹³⁵ Far more significant is the presence of shells in the Geometric pits of the sanctuary of Apollo Daphnephoros at Eretria as well as in the “Aire sacrificielle nord” related to Artemis, where more than 900 and 520 shell remains have been identified respectively, mainly belonging to purple shells (*Hexaplex trunculus*, *Murex brandaris*) and pen shells (*Pinna nobilis*), as well as more than 20 more taxa.¹³⁶ Another sanctuary of Apollo, that of Apollo Hylates at Kourion (Cyprus) produced a significant assemblage of marine shells, yet only a small number was retrieved from the late Archaic/Classical temple.¹³⁷ The *lakkos* deposit located in the pronaos of the Archaic–Classical temple of Apollo at Soros in Thessaly produced an assemblage of 2,338 shell remains, most of which were crushed purple shells.¹³⁸ One clam (*Donax trunculus*) was retrieved from one of the Artemis altars at

¹²⁸ Ath. 7.283a. In association to the Samothracian Gods and the allusion in Homer, Bodson 1978, 52–53; Antonetti 2004, 169. On the cult of the Samothracian gods and an inscribed stele on Kythnos, see Mazarakis-Ainian 2005, 100.

¹²⁹ See n. 3.

¹³⁰ For instance, Nobis 1994, 303; Boessneck 1985, 138–139; Reese 1998, 278–280; Peters 1993, 88–91; Peters & von den Driesch 1992, 117–125; Zimmermann 1993, 70; Nobis 1999. However, shells feature among finds from pre-Iron Age Aegean cult places and are believed to have fulfilled a symbolic role in such contexts. For a general overview of the significance of the marine world in earlier cults, see Glotz 1923, 280; Laffineur 1991; Vandenabeele 1992. For a unique shell assemblage, including *Acanthocardia* sp. and *Veneridae* shells, from the temple repository of Knossos, see Evans 1921, 42, fig. 21. On real shells and clay-moulded shells and their religious significance in Minoan sanctuaries, see Walberg 1987, 174.

¹³¹ Beneath the east wall of the Archaic Artemision, see Gallet de Santerre & Tréheux 1947–48, 149, citing the excavations of R. Vallois (1944, 13). Bevan (1986, 134) also suggests that these seashells might be interpreted as votives as the rest of the finds.

¹³² Seven *Cerithium vulgatum*, one *Monodonta turbinata*, two *Hexaplex trunculus*, one *Patella vulgata*, one *Cypraea pyrum*, six *Cerastoderma glaucum*, six *Acanthocardia tuberculata*, four *Cardium* sp., one *Spondylus gaederopus*, see Stanzel 1991, 144–152.

¹³³ Stanzel 1991, 144.

¹³⁴ Stanzel 1991, 144 and 174–175.

¹³⁵ 19 *Ostrea edulis*, 16 *Spondylus gaederopus*, eleven *Arca noae*, five *Cerastoderma edule*, two *Venus* sp., two *Cypraea pyrum*, one *Turritella communis*, one *Murex trunculus*, Wolff 1978, 109. Compare with the sacrificed animals from the sanctuary, see Forstenpointner, Krachler & Schildorfer 1999. On earlier references, see Picard 1922, 60, n. 2.

¹³⁶ Study in progress by the author of this article; Theodoropoulou 2013. However, only a handful of them were burned, but none calcined. Preliminary counts in Studer & Chenal-Velarde 2003, 176, Table 1. Of notice is the presence of several holed Nassariids in the North Sacrificial Area.

¹³⁷ *Charonia* sp., *Tonna galea*, Reese 1987, 72–79. Remains of sacrificed animals are more abundant, see Davis 1996.

¹³⁸ In NISP/MNI (when different) numbers: 1,815/415 *Hexaplex trunculus*, 104 *Trochidae*, 100/54 *Donacilla cornea*, 66/27 *Cerithium vulgatum*, 54/47 *Chama gryphoides*, 45 *Columbella rustica*, 36/3 *Pinna nobilis*, 35/25 *Patellidae*, 25/15 *Veneridae*, 14/5 *Arcidae*, 4/4 *Vermetus* sp., 1 crab, 1 coral, as well as 35 heavily water-worn shells. Theodoropoulou under study.

Olympia.¹³⁹ On the other hand, no shell remains are reported to have been found in other sanctuaries dedicated to Artemis or Apollo, while occasional fish finds from similar sites have been reported.¹⁴⁰

The presence of shells is sometimes related to Aphrodite, as seen above. D.S. Reese mentions the presence of shells and fish bones from the altar of Aphrodite Ourania on the north side of the Athenian Agora, both unburnt from the fill and burnt which can be related to the burning on the altar.¹⁴¹ The Proto-Geometric levels of the sanctuary of Hermes and Aphrodite at Syme Viannou (Crete) also produced 61 shells and six fish bones.¹⁴² The shells associated to the sacrificial deposits were either holed dove and cone shells or water-worn specimens.¹⁴³ The Cypro-Geometric levels of the sacred area (temple and *temenos* in Area II and associated *bothroi*) at Kition (Cyprus) also yielded examples of cone shells (*Conus mediterraneus*) and other shells, most of them holed or collected dead, as well as sea urchins.¹⁴⁴ The *bothroi* filled with debris of ritual or other activities associated with the Iron Age temples from the same site also produced 23 unburnt fish bones, among which a shark or ray vertebra and possible *Epinephelus* sp. and *Thunnus* sp. vertebrae.¹⁴⁵ Several shells have also been recovered from another Archaic/Hellenistic temple dedicated to Astarte-Aphrodite at Tamassos in central Cyprus, namely 73 *Donax* valves, as well as a few fossil species.¹⁴⁶ In Cyprus again, a number of mollusc remains has been recovered from the sanctuary of Aphrodite

in Amathous.¹⁴⁷ Numerous shell and fish remains have been found in the residential layers of Archaic Miletos (Kalabak Tepe) and seem to have constituted a common foodstuff,¹⁴⁸ and their presence is also attested in the city's sanctuary of Aphrodite at Zeytin Tepe.¹⁴⁹

Marine invertebrates are reported to have been found in several sanctuaries dedicated to Demeter and Kore. In the sanctuary of the Heroes and Demeter in ancient Messene, a small number of fish and molluscs was recovered, yet Nobis notes that the latter had probably been collected on the Ionian seashore as souvenirs and had not been consumed.¹⁵⁰ The late Classical/Hellenistic sanctuary of Demeter and Kore on the Acropolis site of Mytilene (Lesbos) produced a wide variety of marine faunas from all strata, including 23 mollusc species and eight fish species, some of which might be related to ritual activities.¹⁵¹ Most of the remains may be associated with ritual meals, but Dr D. Ruscillo reports the presence of burnt scallops and oysters, which might have been part of the sacrificial remains (including birds, young pigs and sheep/goats) from the altars.¹⁵² In another well-known Demeter sanctuary, that in Eleusis, shells mixed with broken vases, ashes, charcoal and calcined bones have also been recovered

¹³⁹ Benecke 2006, 154; cf. Gropengiesser 1988.

¹⁴⁰ For example, the sanctuary of Artemis at Lousoi, Hofer 1997; the sanctuary of Artemis Limnatis at Kombotherka, Sinn 1981; the sanctuary of Apollo on Aigina, Margreiter 1988; the sanctuary of Apollo at Didyma, Boessneck & von der Driesch 1983. For an overview and bibliography of temples of Apollo and Artemis with adyta, where no shell finds have been recorded, see Lykidou 2007, 44–57 and 77–84. On unpublished fish bones (two) from the sanctuary of Apollo at Halieis, see Rose 2000, 530.

¹⁴¹ Reese 1989, 68–70. They include three fish bones (including a small sparid vertebra), a few cockles (*Cerastoderma glaucum/edule*), one murex fragment (*Murex* sp.), one water-worn dog cockle (*Glycymeris* sp.), one charred basket shell (*Arcularia gibbosulus*), one cowrie (*Cypraea annulus*) with an open dorsum, and one fossil oyster fragment.

¹⁴² Lebessi & Reese 1986, 185–188.

¹⁴³ 31 *Columbella rustica* (21 holed) and 19 *Conus mediterraneus* (twelve holed), water-worn: two *Bittium* sp., one *Glycymeris* sp., one *Murex trunculus*, one *Cerithium vulgatum*, one *Spondylus gaederopus*, one *Mitra* sp., Lebessi & Reese 1986, 185–188.

¹⁴⁴ *Arcularia gibbosulus*, *Murex brandaris*, *Luria lurida*, *Cerastoderma glaucum*, *Glycymeris* sp., *Cerithium vulgatum*, *Charonia* sp., *Monodonta* sp., *Tellina tenuis*, *Patella* sp., *Tapes decussates*; Reese 1985, 343.

¹⁴⁵ Rose 2000, 531, citing personal communication with D.S. Reese.

¹⁴⁶ Nobis 1976–1977, 296.

¹⁴⁷ Four *Nassarius gibbosulus*, one *Ostreidae*, one *Conus ventricosus*, one *Donax trunculus*, one *Glycymeris glycymeris*, one bivalve, Vigne 2006, 139–140. Compare with the numerous shells found in the tombs of the necropolis, see Reese 1992b, 123–144.

¹⁴⁸ More than 4,000 shell remains: Peters 1993, 94; Peters & von den Driesch 1992; Zimmermann 1993, 56.

¹⁴⁹ Namely 121 *Cerastoderma glaucum*, 71 *Murex brandaris*, 59 *Venus verrucosa*, 27 *Hexaplex trunculus*, twelve *Ostrea edulis*, six *Euthria cornea*, six *Spondylus gaederopsis*, five *Cerithium vulgatum*, four *Acanthocardia* sp., four *Arca noae*, three *Monodonta* sp., three *Pecten jacobus*, two *Arcularia gibbosulus*, two *Conus mediterraneus*, two *Mytilus galloprovincialis*, and single specimens from *Patella* sp., *Gibbula* sp., *Cypraea* sp., *Phalium granulatum*, *Tonna galea*, *Glycymeris* sp., *Venerupis aurea*, *Chamelea gallina*, and *Chlamys varia*, one unidentified shark and two sea breams, see Peters 1993, 94; Peters & von den Driesch 1992, 123–124; Zimmermann 1993, 56. Note the important numbers of *Cardiidae*, similar to the Kythnian deposit. According to Peters & von den Driesch (1992, 123), the shells from Zeytin Tepe may represent fertility symbols offered to Aphrodite. The maritime nature of the goddess and maritime character of the sanctuary, further supported by the presence of oriental votives, have been discussed by Senff 2003, 11–25.

¹⁵⁰ *Galeorhinus galus*, *Katsuwonus pelamis*, eight *Glycymeris insubricus*, one *Pecten maximus*, one *Tonna galea*, two *Mactra stultorum*, one *Pecten jacobus*, one *Dentalium vulgare*; Nobis 1997, 108–109. Compare with fish and water-worn shells found in other contexts from the Asklepieion and Sebasteion at ancient Messene, Nobis 1994, 303.

¹⁵¹ Ruscillo 1993, 202–205.

¹⁵² Dr D. Ruscillo (personal communication) believes that many of the shell remains may be intrusive in the Hellenistic layers related to feasting, and are derived from the overlying Roman fill, which covered the destroyed sanctuary. Burnt shells from the altars (scallop, oyster) would be the only safe *in situ* finds related to ritual activities. She also notes the strong indication of Aphrodite worship at the sanctuary.

from the sacrificial pyres of the heroic cult identified between the grave tumulus and the building within the Sacred House precinct.¹⁵³ Among a few marine remains reported in the dining deposit from the sanctuary in Corinth, most of the shells are eroded and possibly represent offerings, while a number of small cockles and sea urchins, as well as 49 fish (mostly *Sparidae*) recovered from the dining deposit are the remains of ritual dining.¹⁵⁴ Fish bones have also been found occasionally in the sanctuaries of Demeter and Kore in Cyrene (Libya)¹⁵⁵ and Knossos (Crete),¹⁵⁶ and although no shells are present, in Cyrene several Archaic bronze pendants have the form of stylized shells, namely cockles and scallops, while three shark or ray vertebral centra have been interpreted as gaming pieces, amulets or beads.¹⁵⁷

Marine faunal remains have been recovered from other cult deposits all around Greece, dedicated to various deities. One of the more significant fish and shell assemblages came from the hearth and altars of the Geometric/late Archaic temples at Kommos (Crete), possibly dedicated to Artemis, Hermes and Poseidon, or Pan.¹⁵⁸ This assemblage included 10,300 *Patella* sp., accompanied by other species in smaller quantities, as well as a few water-worn/fossil specimens, as well as a variety of fish (3,414 fish remains), such as grouper (*Serranidae*), various sea breams (*Sparidae*), wrasse (*Labridae*), bass (*Dicentrarchus* sp.), eel (*Anguilla anguilla*), red mullet (*Mullus* sp.), other bony fish (brown moray, conger eel, garfish, catfish, shore rockling, meagre and corb, picarel, parrotfish, mullet, and sole) and a shark or ray.¹⁵⁹ Some of the shells (cockles, murex) and fish remains might represent in-

dividual burnt offerings or remains of ritual dining.¹⁶⁰ A few invertebrates have been collected from the kitchen deposit associated to the *hestiatorion* of the sanctuary of Poseidon and Amphitrite on Tenos,¹⁶¹ and the sanctuary of Poseidon and Melikertes-Palaimon at Isthmia; the latter included one holed cowrie from the Red Sea, one natural white coral and eight burnt shell fragments, all found in the deposits of the temple treasury with jewellery and silver coins.¹⁶² More important quantities of marine animals have been recovered from the sanctuary of Poseidon at Kalaureia (Poros), including the deposition in a cistern of 2,355 purple shells along with other unusual animals (donkey, cattle, pigs, sheep, goats, dogs, fish, birds, birds' eggs, snakes, frogs and small mammals), possibly related to magic and divination.¹⁶³ Reese mentions the presence of four shell species found at the Harbour Sanctuary (690–600 BC) and the temple of Athena at Emporio on Chios.¹⁶⁴ The sanctuaries of Hera Akraia and Limenia at Perachora and the Heraion on Samos offer special cases of cult related to the marine world: only a few natural shells (some imported from the Red Sea) and shark/ray remains have been found in the deposits,¹⁶⁵ but several votive deposits indicate a connection to the sea (a bronze fish spear, two fishhooks, and an Archaic clay boat, 22 Archaic votive wooden ships, a stone base for a large ship, and an Archaic bronze plaque recording the dedication of captured ships to Hera and Poseidon).¹⁶⁶ Finally, shells and fish bones are sometimes found in cave sanctuaries at some distance from the sea, such as the Minoan to Geometric Idean Cave,¹⁶⁷ and the Pilarou Cave,¹⁶⁸ while a more interesting assemblage comes from the Korykian Cave on the slopes of Mount Parnassos, including around 428 shells from 32 different taxa, namely dog cock-

¹⁵³ Mazarakis-Ainian 1997, 151, n. 1053, citing an unpublished report of Travlos on the *Hiera Oikia* (1938). They are absent from other contexts from the sanctuary.

¹⁵⁴ 14 shells (*Dentalium* sp., *Cerastoderma glaucum*, *Glycymeris* sp., *Spondylus gaederopus*, *Hexaplex trunculus*, *Ostrea edulis*), as well as eight sea urchins; Bookidis *et al.* 1999, 38–39.

¹⁵⁵ Including a shark's vertebra, Crabtree 1990, 113–123 and 127–154; Crabtree & Monge 1987, 139–143.

¹⁵⁶ Jarman 1973, 177–179; cf. Jones 1978, 29; and compare with the shell finds from the Unexplored Mansion, Reese 1992a, 493–496.

¹⁵⁷ On bronze shells and modified fish vertebrae, see Warden 1990, 25–26 and 66.

¹⁵⁸ See also suggestions for an earlier worship of the Apollonian triad, as well as a cult of Near Eastern deities, associated to the Tripillar shrine, Shaw 2000, 711–712. On the latter hypothesis in relation to fish, see Lefèvre-Novaro 2010, 50–52.

¹⁵⁹ 130 *Donax trunculus*, 20 *Cerastoderma glaucum*, 19 *Arcularia gibbosulus*, 16 *Tonna galea*, 13 *Luria lurida*, eight *Murex trunculus*, three *Semicassis* sp.; Reese 2000, 571–642; Rose 2000, 495–560.

¹⁶⁰ Especially with respect to remains from the altars, while remains from inside the temples were less burned, see Reese 2000, 642; Rose 2000, 560. The Kommos temples also produced fishing gear, Rose 2000, 537. The individual character of the offerings may also be supported by the variety of species, possibly reflecting daily catches, see Lefèvre-Novaro 2010, 49.

¹⁶¹ One *Sepia officinalis*, two *Mytilus galloprovincialis*, one *Patella vulgata*; Leguilloux 1999, 427.

¹⁶² Gebhard 1998, 108, fig. 12; Gebhard & Reese 2005, 140–141.

¹⁶³ Mylona in this volume; Mylona forthcoming; Mylona *et al.* forthcoming; Syrides forthcoming; Theodoropoulou 2009.

¹⁶⁴ Reese 2000, 623.

¹⁶⁵ Reese 1984a.

¹⁶⁶ Payne 1940, 525–527; Dunbabin 1962, 527; Bevan 1986, 146–147, n. 22.

¹⁶⁷ Mentioned by Reese in Reese 2000, 623. Also unidentified fish bones, Rose 2000, 530, reporting personal communication with D.S. Reese.

¹⁶⁸ 20 *Hexaplex trunculus*, nine *Glycymeris violascens*, two *Tylocassis undulatum*, one *Patella caerulea*, one unidentified shell, six *Sparus aurata*, one *Thunnus thynnus* and three unidentified bones, uncertain if associated with ritual consumption; Becker 1997, 162–165.

les (*Veneridae* family) and cockles (*Cardiidae* family).¹⁶⁹ The excavator suggests that they were brought as offerings to Pan and the Nymphs by pilgrims coming from the Corinthian shores.¹⁷⁰ On the other hand, several other sanctuaries have not yielded any marine remains at all.¹⁷¹

To sum up, shell remains from historical cult contexts are not uncommon but there does not seem to be any recurrent pattern related to specific deities. In most cases, the limited numbers of edible and/or fresh species as well as the observed modifications of their shell indicate that these finds most probably fall within other classes of objects, usually ornaments and votive offerings, rather than food remains related to cult. More significant assemblages, such as the ones from Kommos, Eretria, Kalaureia or the Korykian Cave, although attesting the use of marine foodstuffs in various rituals within sanctuaries or sacred spaces, do not provide any direct comparanda relating the presence of shells in the adyton of a temple with a specific ritual. In this respect, the assemblage from the sanctuary of Kythnos remains a unique example.

Conclusions

The important shell assemblage from the adyton of the sanctuary situated in the Middle Plateau of the ancient town of Kythnos has raised the question of the meaning of the presence of marine fauna within a sanctuary and, more importantly, its secondary deposition within the inner space of the temple. The study focused on the homogenous body of bivalve shells, rough cockles, found for the most part at the centre of the floor of the adyton. Other shells included singular holed specimens, occasionally modified to valuable objects with the addition of metal wires. The importance of the assemblage was further stressed by other finds from the deposit, precious objects from various materials including coral, as well as evidence for the presence of one or two cult statues inside the adyton. Due to the complex architectural history of the temple, the original place and function of the shells inside the temple is not easy to discern. In this respect, it is not clear whether these shells represent sacrifices, offerings, or remains of ritual meals performed by worshippers inside or outside the temple. Although the identity of the latter will re-

main unknown, it would be tempting to suggest on the basis of occasional textual evidence, that local fishermen praying at the sanctuary for large catches or other aid would have offered these tasty delicacies, possibly the first fruits of the sea, to the worshipped deity, while other pious people, either men or women, poor or rich, might have dedicated simple or more elaborate shell votives asking or thanking for a divine favour. Who among the gods would be well disposed toward human appeals for help and intervention, receiving fruits of the sea as offerings? While this question still remains to be answered, it seems that the sea, visible from the sanctuary, had found its way into the religious sphere of the islanders from Kythnos.

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Abbreviations

- IGA* H. Roehl, *Inscriptiones Graecae Antiquissimae praeter Atticas in Attica repertas*, Berlin 1882.
- LGRM* H. Hunger, *Lexikon der griechischen und römischen Mythologie*, Wien 1959.
- LIMC* *Lexicon Iconographicum Mythologiae Classicae*, Zürich 1984.
- LS* F. Sokolowski, *Lois sacrées des cités grecques* (École française d'Athènes. Travaux et mémoires, 18), Paris 1969.
- ThesCRA I* A. Hermay, M. Leguilloux, V. Chankowski & A. Petropoulou, 'Les sacrifices dans le monde grec', in *Thesaurus cultus et rituum antiquorum I*, Los Angeles 2004, 59–134.
- ThesCRA II* F. Lissarrague, P. Schmitt-Pantel, L. Bruit & A. Zografou, 'Le banquet en Grèce', in *Thesaurus cultus et rituum antiquorum II*, Los Angeles 2004, 218–250.

¹⁶⁹ Amandry 1984, 378–380.

¹⁷⁰ Compare with the 21 marine shells from the Minoan to 8th to 7th centuries BC Idean cave (Crete), reported in Reese 1992a, 493–494.

¹⁷¹ For instance, see zooarchaeological reports on the Herakleion of Thasos, des Courtils *et al.* 1996; the sanctuary of the Kabeiroi at Thebes, Boessneck 1973; the temple of Athena Alea at Tegea, Vila 2000; the shrine of Glaukos, Jones 1978; the Ekklesiasterion at Posidonia (Paestum), Leguilloux 2000; the cult of baby Opheltes at Nemea, MacKinnon 2004.

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Sacrificed animals in Swedish Late Iron Age monumental mound burials

Abstract

Osteological analyses of prehistoric burials from Sweden often consider skeletal remains not only from the buried person, but also from animals. During the Swedish Iron Age Period (500 BC to AD 1050) cremation was common and towards the end of the period (AD 400 to 1050) many different animal species represented by a high number of individuals are often found in a single cremation grave. The skeletal remains represent animals that have been sacrificed and buried together with the dead person. Sometimes only parts of the animal bodies are found in the grave while in other instances the whole animal is present. The animal bone finds can be divided into two groups: animals that have been consumed, such as cattle, pig and sheep, and animals that were used in daily life such as dogs, horses, cats and birds of prey. Dogs are the most common animal in the cremation graves, while finds of birds of prey in particular indicate the high status of the buried person and suggest that falconry was practised.

The monumental mound burial project —*Storgravsprojektet*

In this article I have chosen to focus on the Late Iron Age in Sweden, around AD 400 to 1050. During this period there was a marked increase in animal sacrifices in connection with burials, showing that the funerary traditions had changed. In addition, the construction of the tombs was modified and the burials became more visible in the landscape, compared to those of the Early Iron Age (ca 500 BC to AD 400). There is no consistent pattern in how the skeletal remains are arranged in the Late Iron Age tombs, as there are many variations among the cremation graves. The grave could be placed directly on top of the cremation pyre, and when excavated the burnt remains would be found in a layer of ash, or the bones may have been collected in an urn or a pit in the ash layer.

In 1980, my colleague Maria Vretemark and I initiated, with financial support from Berit Wallenbergs Stiftelse, a

project focusing on a systematic analysis of the osteological material from the rich burials found in the eastern part of central Sweden. These monumental burial mounds, the so-called “Stormannagravar” (“Big men burials”), are the interments of prominent persons from the wealthy class, dated to the later part of the Iron Age, ca AD 400–900. The burial mounds have a prominent position in the landscape and are of imposing dimensions, and were clearly meant to be seen and to demonstrate the buried person’s important position within society.

Large quantities of burnt bones have been found in these graves (*Table 1*). It has been estimated that the cremation of a human body results in around two to four kilograms of bones. The monumental mound burials are extremely rich in cremated bones, however, producing between ten and up to nearly 100 kilograms. The type and volume of the bones reveal that numerous animal sacrifices must have been performed in connection with the cremation.

A common factor with all the graves is that the burial goods are very rich. The dead person, who had been cremated together with a number of animals, was furnished with substantial personal equipment with a practical function but also items to be used for pleasure. Weapons have been found in many of the graves, as well as items of armour, glasses from drinking sets, dices and gaming pieces. These objects are often richly decorated, and costly imported items are also present, such as Islamic coins, rock crystal beads, gaming pieces of jet and ivory, as well as objects executed in exquisite techniques, such as cloisonné and filigree work. The archaeological artefacts thus often demonstrate trading contacts.

The number of individuals, age and sex assessment in the analysed graves are presented in *Table 2*. Furthermore, the cause of death (a sword blow) can be identified in at least one case from traces on one bone fragment from the frontal bone from a man (*Fig. 1*).

Table 1. The 14 monumental mound burials osteologically analyzed within the project (Sten & Vretemark 1988, 147; 2001, 191–198). One additional mound, Broby, was analysed at a later date and is included here (Stavrum 2005–2006).

Location	Parish	Landscape	Date AD	Volume cremated bones/litre
Gamleby	Gunnerstad	Småland	600	38
Hoxla	Sorunda	Södermanland	550–800	67
Landshammar	Spelvik	Södermanland	600	77
Husby, Ingjaldshögen	Vansö	Södermanland	800	60
Karleby	Östertälje	Södermanland	700–800	15
Algö	Överselö	Södermanland	600	15
Rådhuset	Örebro k:n	Närke	700–800	10
Skopintull	Adelsö	Uppland	900	56
Västhögen	Gamla Uppsala	Uppland	500	0,5
Viby	Kalmar	Uppland	800	65
Rinkeby	Spånga	Uppland	600	17
Arninge	Täby	Uppland	800–900	90
Rickeby	Vallentuna	Uppland	600	32
Ottarshögen	Vendel	Uppland	400	10
Broby	Börje	Uppland	800–900	27



Fig. 1. A bone fragment from the forehead showing signs of a blow with an axe or sword tells us how the man in Rådhuset in Örebro died. Photo: Gabriel Hildebrand, Swedish National Heritage Board.

Table 2. Number of individuals, age and sex assessment of the deceased in the monumental mound burials (Sten & Vretemark 1988, 148; 2001, 191–198; Stavrum 2006–2005, 1). M= male, F= female, X= sex could not be identified.

Location	Parish	Landscape	Infant –1	Adultus 18–34	Maturus 35–64	Senilis 50–	Adult
Gamleby	Gunnerstad	Småland			M		
Hoxla	Sorunda	Södermanland			M		
Landshammar	Spelvik	Södermanland		M			
Husby, Ingjaldshögen	Vansö	Södermanland					M
Karleby	Östertälje	Södermanland		M			
Algö	Överselö	Södermanland					M
Rådhuset	Örebro k:n	Närke		M			
Skopintull	Adelsö	Uppland			M F		
Västhögen	Gamla Uppsala	Uppland		M F			
Viby	Kalmar	Uppland			M		
Rinkeby	Spånga	Uppland					M
Arninge	Täby	Uppland		M M F X		M	
Rickeby	Vallentuna	Uppland				M	
Ottarshögen	Vendel	Uppland					M F
Broby	Börje	Uppland			M?		

Animal sacrifice

Apart from the skeletal remains of the buried person, the osteological analyses of prehistoric burials from Sweden often reveal the presence of animal bones. Animals have always been of great importance for man, both in his everyday life and within his perception of the world. Although animal sacrifice was performed during the entire prehistoric period, the tradition of placing animals on the funeral pyre culminated during the Late Iron Age. The skeletal remains represent animals that had been sacrificed and buried together with the dead person and the usual interpretation of their presence in prehistoric graves is that these animals carried a symbolic meaning that reached beyond their practical uses. The animals may have represented men's different character traits, abilities and social position, and could have been offered as a commemoration of these. Also the lifestyle of the departed could be expressed in the funerary rituals. The burial goods

were presumably symbols of the dead man's life after death and of considerable importance for the status of the family. A burial rich in goods was a display of an affluent family and of power.

Contrary to the meagre written sources concerning this period, the importance of animals is more evident from the archaeological material. A large number of investigations of burial and settlement material have resulted in a substantial knowledge of prehistoric man and his relation to animals in Sweden, among them Berit Sigvallius's study of the sacrificed animals from a grave field in Spånga, north-west of Stockholm.¹ The burial grounds were often located near the farmsteads and death was a natural part of man's everyday life. Death was probably not considered as an end of life but rather as a rite of passage.

Table 3 presents the identified animals and number of individuals in the monumental mound burials. There is a great variation of animal species, with 49 different ones repre-



Fig. 2. Rikeby tomb, Vallentuna, Stockholm. Reconstruction of the position of the dead man and the sacrificed animals. The man is placed on his back with his arms along his body. Horses, dogs and birds are placed closed to the man's body. Food offerings, meat from cattle, pig and sheep were placed beside the man's head. The reconstruction of the position of the deceased and the sacrificed animals was possible because the grave contained the undisturbed remains of the pyre itself. Illustration: Ulla Malmsten.

¹ Sigvallius 1994.

Table 3. Distribution of individuals/species in the monumental mound burials (Sten & Vretemark 1988, 150; Stavrum 2005–2006).

1) Only bird identifications are made by Sten and Vretemark.

2) The analyses are not finished and therefore an assessment of the number of individuals cannot be given.

3) The material is incomplete. The number of individuals may be considerably larger.

Species	Gunnerstad 1)	Hoxla 2)	Lands-hammar	Ingjaldshögen 2)	Karleby	Algö	Örebro 3)	Skopintull	Väst-högen 3)	Viby	Rinkeby	Arn-inge	Rickeby	Ottars-högen	Broby
Horse	1	x	3	x	1	2	1	3	1	6	3	7	1		5
Dog	1	x	9	x	1	6	1	7	1	6	3	11	4	3	8
Sheep/Goat	1	x	6	x	1	2	1	1	1	2	2	4	4	1	8
Cattle	1	x	5	x	1	4	1		1	2	2	1	1		2
Pig	1	x	10	x	1	4	1			1	2	1	4	1	7
Cat				x	1			1		1	2	1	4	1	
Eagle owl	1		1	x		1		1		1	1	1	1		1
Peregrine			1			1							2		4
Goshawk	1	x	1	x		1	1	1	1	1	1	1	1		1
Sparrowhawk													1		
Sea eagle								1							
Osprey															1
Domestic /grey goose	2		1	x	1	1		1		1	1	1	1	1	2
Wild duck	1			x		1		1				1			4
Common teal								1							
Domestic hen	1	x	2	x	1	1	1	1	2	1	1	2	1		
Gallina ceousbird															1
Black grouse													1		
Hazle grouse													1		
Crane								1				1	1		
Starling															
Pigeon															
Bittern															1
Bird, unidentified								1							
Pike			1							1		1			
Perch						1						1			
Pike-perch															2

Table 3 continued.

Species	Gunnerstad 1)	Hox-la 2)	Lands-hammar	Ingjalds-högen 2)	Karle-by	Algö	Örebro 3)	Skopin-tull	Väst-högen 3)	Viby	Rinke-by	Arn-inge	Ricke-by	Ottars-högen	Broby
Bream			1												
Roach												1			
Whitefish			1									1			
Lynx										x		x			1
Bear										x				1	
Wolverine								1							
Marten								1							
Total	11	x	43	x	8	23	7	25	7	24	18	38	26	7	49

sented, and a high number of individuals are often found in a single grave. The animal remains can be interpreted as animal sacrifices, food offerings and burial goods, the latter being both necessary personal items and aristocratic entertainment. The animals that have been burnt on the pyre together with the rich funerary goods indicate that the departed must have held an important position within contemporary society.

An example of a cremation undertaken at the site of a monumental mound burial is the Rickeby burial in Vallentuna, north of Stockholm (Fig. 2). The grave was excavated and documented in 25 × 25 cm squares, a method that enabled precision in recording the anatomical position of the dead person, as well as the animals surrounding the body. The investigation revealed how both entire animals and parts of animals had been placed in the grave. Dogs were generally found as entire animals, sacrificial gifts that symbolized companions in death. Animals such as cattle, sheep, goat and pigs were usually present as selected sections of the bodies, meant to provide food for the journey upon which the dead person was about to embark, or may have been meant to be consumed in connection with the burial ceremony.

Unlike animals used in daily life, such as horse, dog, cat and birds of prey which were usually buried whole in the graves, only isolated bones from meat-producing livestock such as cattle, sheep/goat and pig are present. The bones from these animals come from the parts of the body that are rich in meat, such as the shoulders, vertebrae, ribs, pelvis and upper leg bones (Table 4).

Table 4. Different parts from the body are represented (X) between meat-producing animals (cattle, pig, sheep/goat) and animals used in daily life (horse, dog, cat, birds of prey) in the graves.

Part of skeleton	Cattle	Pig	Sheep/goat	Horse	Dog	Cat	Bird of prey
Cranium	–	–	–	X	X	X	X
Teeth				X	X	X	
Shoulder (upper arm and shoulder blade)	X	X	X	X	X	X	X
Vertebrae and ribs	X	X	X	X	X	X	X
Pelvis	X	X	X	X	X	X	X
Upper leg bones	X	X	X	X	X	X	X
Bones from hands and feet	–	–	–	X	X	X	X

Dogs and horses

The most common animal recovered in the monumental mound burials is the dog. Often several individuals were buried in a single grave (Figs. 3–4), and no less than eleven individuals were found in the Arninge tomb in Täby, Stockholm. Here, nine penis bones were identified, belonging to dwarf to large male dogs. The burial must thus have included dogs of different sizes, varying from small lapdogs to large dogs, such as German Shepherd dogs. It can be stressed that very small dogs are unusual but not unique, as one such individual, no larger than 40 cm, was found in both the Landshammar and Skopintull graves (Table 5).²

Horses are also common sacrificial animals and in the Arninge tomb bones from seven individuals were found (Table 3). The importance of the horse is also evident from how often they are depicted on the contemporary picture stones, decorated slabs of stone which were erected to honour the deceased. Sleipner, the divine horse of the Old Norse god Odin, was a central and one of the most commonly-shown motifs. This incredibly strong animal, easily recognized by his eight legs, could move on the ground, in the air and on the water, and carried the fallen warriors to Valhalla, Odin's abode. After the introduction of Christianity in Sweden, the church banned the consumption of horsemeat as heathen and this kind of meat is still today surrounded by taboos in Sweden.

Table 5. Number of dogs and their estimated withers height in some of the monumental mound burials. M = Male.

Location	Number of individuals	Large 60–75 cm	Middle 50–60 cm	Small 40–50 cm	Dwarf size <40 cm
Landshammar	9	1	5 (1 M)	2	1 (1 M)
Karleby	1		1		
Algö	6		1	1	
Rinkeby	3		1	1	
Arninge	11	2	6 (1 M)	3 (2 M)	
Rickeby	4	1 (1 M)	2 (2 M)	1	
Ottarshögen	3	2 (1 M)	1		
Skopintull	7	1	2		1



Fig. 3. Dens axis on the cervical vertebrae of six of the seven dogs that were sacrificed in the Skopintull grave. From the thickness of the dens it can be deduced that the dogs were of different types and sizes. Photo: Gabriel Hildebrand, Swedish National Heritage Board.



Fig. 4. One dog vertebra in Skopintull tomb shows osteophytes on the caudal corpus indicating that the dog was old. The vertebra is here compared with a dog vertebra from the osteological reference collection at the National Historical Museum in Stockholm. Photo: Gabriel Hildebrand, Swedish National Heritage Board.

² Sten & Vretemark 1988, 151.

Fig. 5. The runestone from Balingsta parish in Uppland, dated to about AD 1050, shows a complete hunting scene with a rider on a stallion, two dogs, two trained raptors and the prey itself (deer/elk). Photo: ATA, Swedish National Heritage Board.



Birds of prey

Besides horses and dogs, birds of prey, hares or wild birds are often found together with the buried person. A possible interpretation of this situation is that the departed practised falconry and subsequently was buried with both his necessary equipment and the game that he had caught (Figs. 5 & 6). Among the birds of prey the goshawk is the most common species in the monumental mounds, followed by the peregrine falcon and sparrowhawk. These birds of prey were used for hunting smaller animals, such as hares and other kinds of birds, including the black grouse and hazel grouse. There were also some bones of the eagle owl, a bird that hunts at night, which probably was used as a decoy to lure game into traps at hunts, a practice reported by early ethnographic sources.³

Hunting with trained birds of prey, such as falcons and hawks, was an activity that involved considerable costs in the acquiring of the birds and in training them. It was therefore linked to luxury of the kind only available to the upper class. The presence in the monumental mound burials of trained birds of prey (Fig. 7) can be taken as one of the main indicators of the aristocratic connections of the graves. The oldest finds of birds of prey in Sweden are usually considered to come from the Östhögen burial mound in Old Uppsala, dated to around AD 500.⁴ The evidence from the monumental mound burials suggest that falconry was practised by the wealthy class in Sweden by the late 5th or early 6th century AD, being fully established around AD 600.

The custom of hunting with trained birds of prey arose among nomadic populations on the steppes of southern Asia, probably around 2000 BC at the latest. This highly developed



Fig. 6. Picture stone from St. Hammars, Gotland, with two birds of prey. Photo: Bengt Lundberg, Swedish National Heritage Board.

hunting skill gave horsemen the possibility to catch prey species that were beyond the reach of conventional weapons. Hunting, which originally was a stage in the struggle for survival and for the improvement of the conditions for life, had in Europe around two millennia later developed into a specialized sport for those who had the means and the time available. This type of hunt probably arrived in Scandinavia through the local upper classes' attempt at being fashionable, as they aimed to imitate the European aristocracy that practised falconry. This noble sport was a highly significant part of the lifestyle of the Germanic aristocracy and its occurrence in Sweden can be taken as an expression of the lively contacts between Scandinavia and the culture of Western Europe.

³ Hougen-Åkerström 1974, 92ff; Lindner 1976, 164.

⁴ Sten & Vretemark 1988.



Fig. 7. Claws (phalanx III) from goshawk. Photo: Gabriel Hildebrand, Swedish National Heritage Board.



Fig. 8. A burnt phalanx from an eagle found in a Viking Age tomb (ca AD 900) in Sollentuna, Stockholm. Compared with a contemporary phalanx from an eagle. Photo: Gabriel Hildebrand, Swedish National Heritage Board.

To find eagle bones in cremation tombs is very rare. In Skopintull, one sea eagle was found, and a phalanx of an eagle was also recovered in a Viking Age tomb (ca AD 900) at Sollentuna, to the north-west of Stockholm (Fig. 8). Compared with the tombs in the monumental mound burial project, the Sollentuna tomb was a small grave with only 1.5 litres of cremated bones and no artefacts showing a connection to the wealthier classes. Still, the young person buried here, no more than a teenager, was cremated on a pyre together with seven different kinds of animals: a horse, a bovine, a young pig, a dog, a domestic hen, a duck, an eagle and a goshawk.⁵

Today, hunting with trained eagles is practised in Asia to catch wolves. Hunting with this kind of bird is considered as a prestigious and impressive activity but cannot be evidenced in Sweden during the prehistoric period. On the other hand, the eagle symbolizes power and has a long tradition as a marker of such in European art. During the Iron Age, brooches worn by women were eagle-shaped and, as the eagle also had a connection to the Old Norse god Odin, it is possible that those who carried ornaments with this bird stood under the protection of this divinity.⁶

Other animal species in the monumental mound burials

Bones from meat-bearing animals in the monumental mound burials come from horse, cattle, sheep/goat, pig and domestic fowl. Fish as food offerings are also found, the species being pike, cod, perch, pike-perch, bream, roach, and whitefish (Table 3).

The osteological evidence can be compared with a unique piece of written evidence, the account by the Arab traveller Ibn Fadlan, who in AD 922 witnessed the cremation of a Viking chieftain on the shores of the Volga.⁷ The detailed description of the procedure tells how the Viking lord was cremated in a ship together with a sacrificed woman, a dog, two horses, two cows, one cock and one hen. All the animals were cut in parts.⁸

Other animals to be mentioned among the bones recovered in the monumental mound burials are bear and lynx, the remains of which often consist of phalanges (III) of claws. Such finds indicate that only the skins of hunted animals were deposited with the dead, presumably used for wrapping the deceased, but the skins may also be those of animals sacrificed for religious purposes. Occasional phalanges (III) of marten and wolverine, identified for example in Skopin-

⁵ Sten 1996, 141.

⁶ Gräslund 2006, 127f.

⁷ Frye 2006.

⁸ Frye 2006.

tull, have also been found in prehistoric graves and may be explained similarly.

It is also common to find bones and teeth in the cremation burials that are only slightly affected by the fire or are even unburnt. The slightly burnt bones and teeth have not been exposed to the fire and must have been added when the pyre was almost extinguished.⁹ Possibly these bones and teeth derive from slaughtering and meals in connection with the funerary ceremonies, or they may represent food given to the dead person in his next life. Finds of unburnt teeth of horses, cattle and sheep are more difficult to interpret. They are unlikely to represent remains of food and may rather have had a symbolic value.

Concluding remarks

The osteological evidence in combination with the rich burial goods in the Late Iron Age monumental mound burials show that the departed must have had a high status in society. The bones from cattle, sheep/goat and pigs are to be interpreted as offerings of food, indicating meals focusing on meat. The finding of horses, dogs and birds of prey can be given a different interpretation, suggesting that the upper class practised hunting with trained birds of prey.

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⁹ Sten 1996, 141.

The zooarchaeology of cult

Perspectives and pitfalls of an experimental approach

Abstract

A broad variety of ritual behaviours involve the killing and/or consumption of domestic as well as game animals, and are functionally assigned to most important social procedures and ceremonies such as religious worship, activities of public administration or funerary rites and very often also to subsistence-oriented sacrifice. Material remains indicative of these ceremonies reveal specific aspects of the ritual procedure, but their significance is always dependent on the degree of scrutiny that has been spent during archaeological excavation and more so in the analysis of the finds. Focusing on ritual patterns in Mediterranean antiquity, the remains of burnt offerings and agglomerations of caprine horn cores are attested frequently by the zooarchaeological record. Even when literary descriptions of all of these sacrificial activities are available, obvious uncertainties about the actual procedure of burning *meria* and *osphys* and of the consecration of goat horns made experimental efforts necessary. Experimental approaches characterize a well established methodological tradition in archaeological and historical research, not only enhancing our understanding of poorly handed down evidence of ancient life, but also allowing the feasibility of reconstructive suggestions to be judged. On the other hand, obtaining evidence by means of experimental studies always has to take into account potential and maybe biasing phenomena of convergence. Talking in terms of evolutionary biology, the phenotypically similar appearance of archaeological findings and experimental results has to be understood as the outcome of two distinctly evolved and necessarily different processes.

Methods: surveying pitfalls

When Robert Ascher stated in 1961 that “... the imitative experiment is the keystone of experimental archaeology”, he added that the experimental approach “... has failed to receive general acceptance because the evaluation of the procedure and results of such experiments are ambiguous”, thereby not only introducing the term “experimental archaeology” in the scientific thesaurus for the first time, but also addressing

a main problem of this method.¹ In the second half of the 19th century various experiments, in particular by American scholars, had been undertaken in order to improve the understanding of prehistoric techniques, such as Stone Age flint technology or production of ground stone axes and hammers, primitive metalwork or simply the making of pots.² Obviously, the vast majority of experimental attempts were linked with subjects of prehistory, often carried out by amateurs in terms of archaeology, yet skilled experts in technical disciplines such as metallurgy or ceramology.

In part due to a lack of academic coordination and also to various experiential activities through re-enactment and role playing that became known for their flawed methodology, scholarly acceptance of experimental archaeology remained, and apparently still remains, reserved, if not disapproving. An obvious confusion between experimental and experiential archaeology, regarding the scope, scale and goals of the two subjects, has hindered the contribution of experimental archaeology towards the study of history, prehistory, and human evolution substantially. Scholars like Julian Thomas expressed their displeasure clearly by mentioning “something of a craze for experiential archaeologies which assume that past people’s encounters with landscapes and architecture would have been much the same as our own”.³ In fact, normally experiential archaeology does not answer any question on particular social, economic or technological features of bygone societies. Instead, it serves as a tool for educating the public, students, and also professionals, an intention which constitutes a reasonable goal. Frequently, experiential archaeology might also provide the necessary skills for future experiments or questions dealt with in experimental archaeology. However, referring to relevant considerations by Carolyn Forrest,

¹ Ascher 1961, 793 and 794.

² Holmes 1890; McGuire 1891; Cushing 1894.

³ Thomas 2000, 148.



Fig. 1. Osphys roasting on fire. Attic red-figure bell krater, London, British Museum E 494, Painter of London E 494, 450–425 BC.

Photo: © Trustees of the British Museum.

we have to state that a serious reason for the poor academic standing of experimental attempts might also be “... an elitist attitude ..., in that experimental archaeology is not the sole premise of the academic fraternity but instead is open to, and can be done by everyone with an interest in the subject”.⁴ Most likely this argument matches in particular the distrust and refusal with which the experimental approach is still regarded by many representatives of Classical Archaeology.

Experimental archaeology usually has two main goals: (1) making things look like ancient artefacts and (2) finding the proper way to do so. Of course attempts are made to achieve at least the former in order to improve our understanding and imagining of significant aspects of Classical civilizations. Architectural history applies the methods of *anastylosis* to visualize ancient buildings by means of virtual reconstructions, bearing in mind the inevitable risk that interpretational errors will result in errors in reconstruction.⁵ Processual issues like the dyeing experiments by Deborah Ruscillo and other scholars have contributed valuable knowledge to our understanding of ancient craftsmanship and economy.⁶ The clarification of poorly-understood iconographic items has been tackled by means of experimental approach. When in 1966 Michael Jameson gave a short account on his experiments in burning oxtails he provided a comprehensive and subse-

quently widely accepted explanation of the “peculiar curved object rising from the altar flames”⁷ that was well known yet poorly understood as a frequently depicted component of Greek vase paintings showing sacrificial activities (Fig. 1). His interpretation of this object as the roasting and increasingly curving tail of the bovine sacrificial victim (Fig. 2), additionally supported by very clear literary clues, has been proven and deepened by subsequent studies⁸ as well as by the zooarchaeological record⁹ and indicates the promising prospects of a well-considered and performed archaeological experimentation.

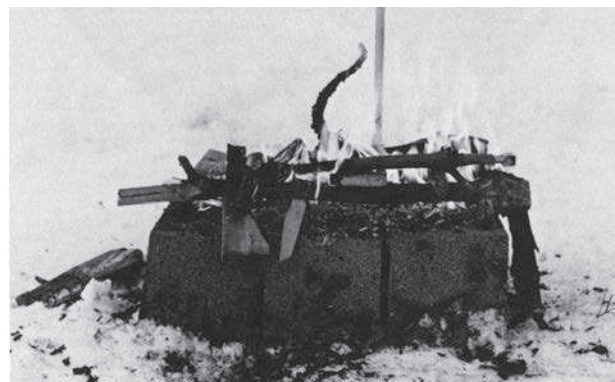


Fig. 2. Experimentally roasting oxtail. After Jameson 1986, fig. 3.

⁴ Forrest 2008, 67.

⁵ Nohlen 2004.

⁶ Ruscillo 2005.

⁷ Jameson 1966, 54; Jameson 1986, 60–61.

⁸ E.g. van Straten 1988.

⁹ Forstenpointner 2003.

Nevertheless, overlooking the distrust of renowned scholars of the worth of experimental attempts would mean ignoring the existence of both obvious and hidden pitfalls that may dim or even alter the pursued insights. Talking in terms of evolutionary phenomena, whether biological or cultural evolution, the effects of convergence should be considered thoroughly. Convergence describes the generation of morphologically similar or even almost identical features in unrelated lineages, separating analogous from homologous structures, which have a common origin, therefore.¹⁰ A spectacular example of convergent biological evolution is the lens-bearing and adaptable camera-type eye of vertebrates, squids and some jellyfish, the common ancestor of which three animal phyla only possessed simple photoreceptive cell-agglomerations as optical organs. Other striking examples are close morphological similarities of phylogenetically far-distant species, such as the almost identical looking skulls of carnivorous canids and the marsupial *Thylacinus cynocephalus*, the Tasmanian tiger, or the digging claw of moles and mole crickets. Applying these phenomena to archaeology means that an experimentally produced flint tool never can be fully homologous to an archaeological artefact, as the primary aim of the experimental action is the improvement of knowledge, when the original cause for producing a blade was strictly subsistentially or socially based. Naturally, avoidance of this fundamental and causal difference between archaeological evidence and the outcome of experimental studies is not possible, but scholars always should be aware of it.

Another more crucial, yet in parts avoidable element of uncertainty is a starting point with too many inherent biases. Obviously, along with a proper question, every reasonable experimental set-up depends on a clearly formulated and well-based hypothesis which inevitably—and deliberately!—creates anticipations, yet, it has to be tested in terms of verification and falsification, which means that the very result cannot be foreseen and has to be accepted, whether positive or negative. In short, archaeological experiments, just like their hard science-based relatives have to obey certain conventions in order to be judged equivalent. Therefore, experimental archaeology performs experiments, *sensu stricto*, only if a valid hypothesis has been established, such as for instance “fire causes bone modifications which morphologically are subject to various quantifiable factors”.¹¹ The subsequent analyses of results are obligatory, and we compare these with the questions we posed before carrying out the experiment, as well as

with the expected outcome. Of great importance is a comprehensive basing of the hypotheses on available arguments.

In terms of zooarchaeological experiments the question “how to determine the identity of that peculiar curved altar-placed object on Greek vase paintings?”, followed by the statement that “a roasting oxtail curves upwards and looks like the curved object”,¹² established a quite valid hypothesis, due to the significant morphology of the object and verified by the result. Supported by iconographic, morphological and osteological evidence, the conclusion that “the curved object on the altar depicts a burning oxtail” bears a very high degree of probability. However, questioning “how to interpret an indistinct lumpy object held by a person over the flames of an altar?” (Fig. 5) and answering—tentatively, of course—“this object looks like a bovine gall bladder” (Fig. 6) establishes an unsuitable hypothesis.¹³ In spite of the object’s poorly diagnostic morphology, it widely foresees the result, does not allow or expect any falsification and therefore anticipates the conclusion too much. Michael Jameson’s literary considerations on this proposal are reasonable, mainly based on Sophocles’ *Antigone* 1010, when Teiresias mentions the gall bladder to be part of the god’s portion. However, even if he holds a really huge bovine gall bladder, such as would come from a 1,000 kg ox and which is not comparable to the normally rather skinny cattle breeds of Classical Greece with withers heights between 1.10 and 1.30 metres, even if so, the object in the offering person’s hand is still much larger than Jameson’s simulacrum. Anyway, in this case a valid hypothesis might state that “an indistinct lumpy object held by a person over the flames of an altar looks like various ritually significant body parts of sacrificial victims, as to be assessed in terms of probability”, which might be tested by a “look-alike test”, either by means of a series of newly conducted experimental actions or by meta-analysis of available studies, and probably produce suitable results for a conclusion.

The too-much-anticipating, foregone concluding and therefore biasing experimental approach very much resembles the emotional condition of a person strolling around some landscape. The sociologist Lucius Burckhardt who established *Promenadologie* (“strollology”) as an academic subject in the early 1980s characterized the perception of landscape by the statement that “Alles dieses lag schon im Kopfe bereit, ehe der Spaziergang begonnen wurde” (“everything had been mentally got ready and stored before starting the stroll”) and the stroller notices only “... die Dinge, die er pflichtgemäß in dieser Gegend hätte sehen sollen” (“details of this landscape that he should have duly perceived”).¹⁴ More

¹⁰ On biological convergence, see, for example, Morris 2003, 106–108; on cultural convergence, see Jenkins 2006.

¹¹ Iregren & Jonsson 1973; Gilchrist & Mytum 1986; Buikstra & Swegle 1989.

¹² Jameson 1966, 54; Jameson 1986, 60–61.

¹³ Jameson 1986, 61–62.

¹⁴ Burckhardt 2006, 257–258.



Fig. 3. Iris carrying osphys. Attic red-figure skyphos, Penthesilea Painter, 475–450 BC. Antikensammlung, Staatliche Museen zu Berlin, inv. F 2591. Photo: © Johannes Laurentius / SMB Antikensammlung.

in terms of scientific methodology and also more drastic, Adolf Schopenhauer stated on hypotheses, “eine gefäzte Hypothese giebt uns Luchsaugen für alles sie Bestätigende, und macht uns blind für alles ihr Widersprechende” (“a formed hypothesis sharpens our sight for any corroboration and it makes us blind for all discrepancies”).¹⁵

The validity of many experimental attempts that deal with the zooarchaeology of cult is severely flawed by the aforementioned basic methodological default and within the following sections we will try to apply methodological assessment to a few examples of cult-focused experimental zooarchaeology.

Emulating Prometheus

Michael Jameson’s identification of a burning curved object on offering scenes of Greek vase paintings as depictions of a heat-affected oxtail¹⁶ and its literarily proven interpretation as ritually burnt *osphys*¹⁷ have been mentioned before and represent a widely successful application of experimental analysis. Mainly due to the scrutinizing source research by Folkert van Straten, the final determination of the curved object could be ascertained even more precisely: iconographic evidence in the form of a red-figured Attic skyphos, and also a kylix of the Brygos Painter, shows the curved object quite clearly, this time not lying on an altar but held in the hands of Iris and

eagerly desired by satyrs.¹⁸ The paired processes on the basal end of the object prove that the *osphys* comprises not only the tail but also the *os sacrum*, the sacred bone, *osteon hieron* and the last lumbar vertebra (Fig. 3). Additional endorsement is supplied by the zooarchaeological record from burnt offering sites like the Ephesian Artemision which yielded charred and calcined fragments from mainly bovine lumbar, sacral and caudal vertebrae, as well as from a simple look-alike test that we performed (Fig. 4).



Fig. 4. Bovine sacrum and tail, experimentally defleshed. Photo: G. Weissengruber.

¹⁵ Schopenhauer 1859, 254.

¹⁶ Jameson 1986, 60–61.

¹⁷ van Straten 1988.

¹⁸ Berlin, Antikensammlung, Staatliche Museen zu Berlin, F2591; Forstenpointner 2003, 212, fig. 21.7. London, British Museum E 65; van Straten 1995, V402, fig. 128.

Fig. 5. Man holding object over fire. Attic red-figure bell krater, Paris, Louvre G 496, Pothos Painter, 425–400 BC. © 1973 Musée du Louvre/ Maurice and Pierre Chazotte.



Michael Jameson determined that other barely recognizable detail of Greek ritual iconography (a lumpy bundle, held by a male person over the burning altar) to be a bovine gall bladder.¹⁹ This object had previously been interpreted as representing a piece of meat, an interpretation that had been well-received; it was also considered that other, as yet unidentified parts of the victim might be indicated by the vase paintings (Fig. 5).²⁰ Again, due to the scholarly efforts of Folkert van Straten, a reasonable identification of these items as *meria* bundles—defleshed thigh bones of sheep or goats, wrapped in layers of fat—was achieved.²¹ Authors of older studies have been convinced that the god's portion (*meria*) should have comprised the whole flesh-covered thigh or at least a nice piece of meat, yet the story of Prometheus' trick at Mekone, when "for Zeus he put the white bones (*osteia leuka*) dressed up with cunning art and covered with shining fat";²² and also sarcastic comments of Attic poets on this still-practised but no longer understood tradition of offerings prove very clearly that only defleshed bones were burnt on the altar. Pherekrates, a contemporary of Aristophanes, makes a god complain about human stinginess in giving to the gods "the thighbones scraped off up to the groin, the *osphys* absolutely defleshed".²³ Euboulos, a poet of the early 4th century BC, even more sarcastically states that "people offer to the gods merely tails and thighs, as though to pederasts".²⁴ Hints on the nature of their fatty cover are given by the Homeric



Fig. 6. Hand holding an ox gall bladder. After Jameson 1986, fig. 4.

¹⁹ See n. 12 above.

²⁰ For example, Metzger 1965, 114.

²¹ van Straten 1995, 118–141.

²² Hes. *Theog.* 540–541; cf. also Pötscher 1995.

²³ Pherekrates fr. 28 (Kassel-Austin), ap. Clem. Al. *Strom.* 7.30.3.

²⁴ Euboulos fr. 127 (Kassel-Austin), ap. Clem. Al. *Strom.* 7.30.4.



Fig. 7. Thigh bones of a sheep, wrapped by the abdominal net of fat.
Photo: G. Weissengruber.

term “double layer of fat” (*knise diptyche*),²⁵ that can be interpreted as the likewise two-ply and in ruminants very fatty abdominal net of fat that wraps the thigh bones like a double walled bag (Fig. 7). An even more striking proof is provided by the already mentioned fragment of Euboulos, assigning the *epipolaion* ([abdominal] net) as part of the god’s portion.²⁶ The zooarchaeological record proves not only the almost exclusive burning of ovicaprine thigh bones and bovine sacra and tails at the majority of investigated sacrificial sites, but also surprisingly early confirmations of this tradition in Protogeometrical Ephesos, dating to the second half of the 10th century BC.²⁷

Referring to these strong arguments we also performed a look-alike test, comparing an abdominal net thighbone bundle with the queried depictions and we realized that the visual result was at least as satisfactory as when using a gall bladder (Fig. 8). Additionally, it would of course be interesting and desirable to perform experimental burning of wrapped, bare and fully fleshed ovicaprine thigh bones, considering the apparently significant difference of fire-induced crack patterns of fleshed and bare human bones.²⁸

In summary, it might be stated that at least some experimental attempts to clarify specific aspects of the Greek burnt offering ritual yielded reasonable results and conclusions. Prerequisite to relevant results that are suitable for elucidation and visualization of this complex evidence is an extremely carefully designed hypothetical background.



Fig. 8. Hand holding an ovine abdominal net-thigh bones bundle.
Photo: G. Weissengruber.

Investigating sacred horns

In antiquity the Delian *bomos keratinos*, a “horn altar”, dedicated to Apollo and as yet unknown from structural archaeological evidence, was a well-known and popular place for worship. Early literary descriptions, such as that given in Kallimachos’ hymn to Apollo indicate an architectural construction, built of the horns of wild goats “with horns builded he (Apollo) the foundations, and of horns framed he the altar, and of horns were the walls he built around.”²⁹ More than three hundred years later Plutarch mentioned the Delian horn altar twice, one quotation describing its building materials as left horns, the other as right ones.³⁰ This inconsistency caused learned, yet poorly-founded discussions, based on the evidence of only 16 goat horns (eleven left, five right) from a horn altar like structure in a Geometric sanctuary at Dreros (Crete).³¹

Eustathios in his commentaries mentions another well-known and highly esteemed horn altar in Ephesos, *bomos Ephesios keratinos*,³² and zooarchaeological analysis of faunal remains from Geometric and Corinthian layers of the Ephesian Artemision yielded a total of 2,118 caprine horn cores with an extremely balanced proportion of the two body sides (50.3% left and 49.7% right).³³ A considerable accumulation of these finds was situated near the northern flank of the so-called Hekatompedos. However, only a very low ratio of the finds comprised horns that had been removed separately. In the vast majority the median osseous suture between the

²⁵ For example, Hom. *Il.* 1.460–461.

²⁶ Euboulos fr. 94 (Kassel-Austin), ap. Clem. Al. *Strom.* 7.30.3.

²⁷ Forstenpointner 2005.

²⁸ Buikstra & Swegle 1989, 252.

²⁹ Callim. *Hymn* 2, 61–62.

³⁰ Plut. *Vit. Thes.* 21 (left horns); *Mor. De soll. an.* 983e (right horns).

³¹ For example, Deonna 1940.

³² Eust. *Il.* 8.249 (van der Walk, vol. 2, 575, line 10).

³³ Forstenpointner 2000.

Fig. 9. Removing the horn-bearing part of a goat skull by means of three axe-strikes. Photo: G. Weissengruber.



horns was either still intact or had decomposed long after the victim's death, indicating very clearly that the whole calvaria, the horn-bearing part of the skull, had been butchered off. A small experiment showed that it is very easy to remove the horn-bearing calvaria by means of three axe strikes (Fig. 9). A second small-scale experiment was related to the construction of the horn altar (Fig. 10). Based on the hypothesis "construction of an upright altar-like structure using goat horns is feasible" we tried to pile up both single and still-joined horn cores, using archaeological specimens. The experiment proved very clearly that a sufficiently stable, load-bearing construction requires the two-horned, fork-like calvaria. Regardless of their side, separated single horns always tend to slide apart.

Representing not faunal remains but artificial simulacra, the so-called "horns of consecration" played a major role as Minoan architectural ornaments and are also frequently found on figurines and vase paintings. Arthur Evans interpreted these objects as an ornamental translation of real bucrania, the horn-bearing skull parts of bulls.³⁴ Due to the fact that bovine horns and horns of consecration are morphologically dissimilar—as seen on a Mycenaean vase painting featuring two horned bucrania and one pair of horns of consecration (Fig. 11)³⁵—we established the hypothesis that "also other horn-bearing skulls than bucrania might have served as models for horns of consecration". The comparison of the mentioned vase painting and a similar composition of real skeletal elements (Fig. 12) showed a remarkably high grade of similarity between horns of consecration and goat skulls. However, as our underlying hypothesis excludes other non-faunal models completely and the experimental action was restricted to the comparative evaluation of only one alternative species, the conclusion therefore remains flawed. It can be argued that the heads of goats rather than those of bulls



Fig. 10. Experimentally built heap of caprine horn cores from the Ephesian Artemision. Photo: G. Weissengruber.



Fig. 11. Ornament of a Mycenaean vessel from Salamis, Cyprus. After Evans 1901, 107, fig. 3.



Fig. 12. Experimentally composed bovine skulls and caprine horn cores. Photo: G. Weissengruber.

³⁴ Evans 1901, 135–138.

³⁵ Evans 1901, 107, fig. 3.

were the model for the Minoan horns of consecration. This argument is supported by the clear importance of caprines in Minoan ritual culture, as depicted on the famous rhyton from Kato Zakros,³⁶ as well as by Christos Doumas' find of a small *bomos keratinos* in Minoan Akrotiri;³⁷ but even so, substantial efforts in archaeological as well as experimentally-focussed investigation will be necessary to provide further support for this proposition.

Ornaments for Artemis

The well-known cult images of the “many-breasted Lady of Ephesos” are adorned with multiple rounded breast-like protuberances on their chests. Traditionally described as accessory breasts, as befits the primary role of the Ephesian Artemis as a mother goddess, more recent studies proposed other interpretations of these objects. Assuming a close ritual context between Artemis of Ephesos and *Megale meter*, the Great mother of Asia Minor, whose favourite sacrificial victim was the bull, Gérard Seiterle was convinced that the offering of bulls also played a central role in the cult of the great Ephesian deity.³⁸ He interpreted the rounded objects on the chests of the images as the scrota of bulls that had been slaughtered during the rites of sacrifice, and tried to support this proposition by experimentally attaching freshly butchered bovine scrota on a replica of the statue (Fig. 13). This experimental attempt gained considerable publicity but its conclusion is flawed, as the hypothesis that “the objects on the chest of the Ephesian Artemis look like bovine scrota” is anticipating and does not refer to available additional data. The zooarchaeological record in particular weakens the hypothesis, as bovine remains comprise only 20% of all ruminant bones from the Artemision, and these almost exclusively represent cows.

Conclusions

In summary, it has to be stated that until present and due to methodological inconsistencies quite a lot of experimental work on the zooarchaeology of cult has failed to yield valid conclusions that are suitable for reliable application to the wider scientific context of ritual offering. This unfortunate diagnosis concerns mainly the look-alike experiments that in fact address highly complex bodies of evidence, while simple structured attempts to clarify the technical course



Fig. 13. Artemis Ephesia with attached scrota of bulls. After Seiterle 1979, fig. 14.

of a sacrificial action appear to be more promising. Simple experimental set-ups bear a higher chance than more elaborate ones of evading Murphy's first law of experimentation, which states that “whatever can go wrong, will go wrong,”³⁹ and hard scientists would do best not to ignore these cogent words. Comparative experiments apparently are subject to Murphy's sixth law, “anything looking too good to be true, most likely is not true”. But of course, it is not fair to apply the same high methodical standards to archaeological experiments as to natural science-related ones, for the number of unknowns in archaeological equations is normally incomparably higher than in those of natural sciences. Therefore, the simple-seeming recipe for reasonable success in archaeo-

³⁶ Bloedow 1990.

³⁷ Doumas 1999, 79, fig. 77.

³⁸ Seiterle 1979, 9–16.

³⁹ Bloch 1977, *passim*.

logical experiments—a proper hypothesis, followed by sound realization and unbiased interpretation—is hard and tricky to achieve. The hypothesis, inevitably anticipating, should be based on all available evidence concerning the problem in order to avoid Schopenhauer's suspicion, and realization as well as interpretation has to face the inescapable biasing factor of convergence, as similar looking outcomes of highly different motivated procedures are being compared.

However, at the end of the day the experimental approach deserves scholarly attention for two main reasons: it not only provides a method that is able to answer sound questions very clearly, but often also can convey archaeological or historical evidence much more effectively to the public than any learned essay.

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Bones in Greek sanctuaries: answers and questions

Abstract*

The paper begins by surveying some old problems in the study of Greek ritual to which the zooarchaeological evidence has brought answers, or at any rate illuminating new perspectives (sacrifice to Herakles on Thasos, and Herakles' identity there; sacrifice at Kalapodi/Hyampolis). The focus then shifts to the attestation by the bones of the eating of "non-sacrificable" species of animal in sanctuaries, suggesting that we ought at least to reckon with the possibility that such consumption was common, that sacrificable animals too were not uncommonly eaten without being sacrificed, and that in general the Greeks may have been less scrupulous about sacrificial feasting, and about meat-eating in general, than modern scholars have tended to suppose. It may be that in this sphere, as (I have argued elsewhere) in others, the sacrality of the central ritual "tapered off" quite sharply, and that the banqueting, like festival events such as parades, markets, athletics, and dramatic and musical performances, was in practice felt to be essentially "secular".

The evidence of the animal bone deposits in Greek sanctuaries, so long neglected (in the most literal sense), is at last coming into its own, and promises to make a central contribution to our understanding of Greek sacrificial practice. All of us who work on Greek sacrifice owe a great debt to the archaeologists and osteologists for their patient and painstaking work on particular deposits, and to Gunnel Ekroth and others for beginning to bring the evidence of the bones into synoptic focus. I should like here to point to some answers to old quandaries that the bones have already given us, and to discuss a central question about Greek sacrifice and Greek cult which the bones raise.

The first and I think most important observation to be made is that these are still early days in the interpretation of zooarchaeological evidence. Scientifically sound work has now been done on a wide range of sites and on bones deposited over the full span of prehistory and history, but we can hope that careful zooarchaeological study will become an

indispensable component of exploration of all sites with animal bones, and that a great deal of further evidence is therefore still to come. Many scholars of Greek religion are only just beginning to appreciate the fundamental importance of zooarchaeological evidence to the study of Greek sacrifice. Scholars are, after all, inured to the kind of evidence with which we have normally dealt: ancient depictions of sacrifice, which bring things vividly to life while also prompting as many questions as they answer; ancient literary testimonia to sacrifices which are spotty, laconic and of very various—and often enough unclear—chronological provenance; and a modest and ever-modestly growing body of epigraphic evidence which is as various in provenance and chronology as the literary testimonia and often even more bafflingly laconic. The zooarchaeological evidence almost always compares very favourably to our other evidence in its splendid abundance, the specificity of what it attests, and its clear location in space and generally also in time, and I expect that it will be seen before long as our most reliable and illuminating evidence for what Greeks actually got up to at sacrifices and in sanctuaries. Our verbal evidence for these matters is so limited that a single new text can change our view radically—I have argued that the recently-published bottom half of a decree of the Attic deme Aixone, for example, should alter our view of how the Greeks performed a holocaust sacrifice¹—and so limited too that the whole body of our evidence can leave us in genuine doubt about quite basic questions, such as the business of the Olympian/chthonian distinction, which we might be said to debate so vigorously because none of us is in a position to do more than argue for the relative plausibility of our own interpretation of an obviously inadequate body of evidence. The zooarchaeological evidence will not of course answer all our questions, many of which it simply cannot answer, but as our richest source of new and concrete information, it will

* I am grateful to Robert Parker for very helpful comments on a draft, and to Gunnel Ekroth for much helpful discussion and correction and for the kind loan of her photocopy of Stanzel 1991.

¹ Scullion 2009.

predictably prompt both radical new suggestions and rejection of received views, becoming at once the most reliable catalyst of change and the most indispensable “reality check” in the study of Greek animal sacrifice.

Answers

I begin with examples of some old questions to which the animal bones have brought a firm or plausible answer or which they have at any rate helpfully clarified. Gunnell Ekroth has drawn attention to the widespread lack of pig bones in altar deposits and suggested that the thighbones and tails of pigs were not, as in the case of other standard victims (cattle, sheep, goats), removed and burnt at the altar.² As Robert Parker has reminded us in a different connection, Karl Meuli long ago speculated (on the basis of Eumaios’ sacrifice at *Od.* 19.419–36) that sacrifice of pigs worked differently than that of the other standard victims.³ More zooarchaeological data and prolonged discussion will be required before we can define and interpret this distinct practice with any confidence, but it is pleasing that Meuli’s old and neglected suggestion has been given a new lease on life by the accumulation of fresh evidence. It is both encouraging and consoling to think that in time the evidence may catch up with some of our own instinctive suggestions, or “shots in the dark”.⁴

My second example is of bone evidence answering a question which we had not quite asked, and in the process raising a wider question that ought to have occurred to us. In their publication of the bones found at the Herakleion in Thasos, des Courtils, Gardeisen and Pariente observe that in the deposits both goat and pig bones are notably absent⁵ and re-

fer this to a well-known inscription of the mid-5th century BC prohibiting precisely goat and pig offerings to Herakles Thasios.⁶ There has been, and will doubtless continue to be, a good deal of discussion of the cults of Herakles on Thasos, and in particular of whether there was a distinctly “heroic” cult there involving holocausts.⁷ I cannot resume the debate here, but share the views of des Courtils, Gardeisen and Pariente that the Herakles Thasios inscription requires holocaust sacrifices; that the heroon of Herakles on Thasos will have been near the findspot of the inscription in the agora in central Thasos town; and that the sanctuary from which the bones come (and where sacrificial banquets clearly took place, as the bones indicate), in the eastern part of Thasos town, is a distinct sanctuary for the “divine” Herakles.⁸ If this is right, we are faced with the interesting fact that the prohibition on goat and pig offerings prescribed for the heroic cult in the agora of Thasos was also observed at the “divine” sanctuary. So far as I am aware, it had not occurred to anyone, before the animal bones at the Herakleion were analysed, to wonder whether the prohibition in the inscription found in the agora might have applied also to “divine” sacrifices to Herakles elsewhere in Thasos. The beginning of the inscription—“To Herakles Thasios it is not *themis* [to sacrifice] a goat, nor a pig...” —sounds like a general prohibition applying to all cult of this god, but the apparent requirement of total holocaust (contested by some scholars) in the sequel cannot have applied to all cult of “divine” Herakles, and those of us who have assumed two distinct cult-places and sets of sacrificial practices have taken the inscription to apply to Herakles the Thasian hero. The animal bones now demonstrate beyond doubt that there were standard “Olympian” sacrifices for Herakles on Thasos, and therefore that the inscription must indeed have looked primarily to the heroic cult.

The wider question that the Thasian bones raise has to do with the interpretation of this evidence in the context of the relationship between rituals and recipients in general. Why, when the sacrificial procedures were so distinct at heroon and Herakleion, should the prohibition on goat and pig have applied at both? We have to think, it would seem, not of dis-

² Ekroth 2009, 143–144 with n. 83.

³ Parker 2010, 142, n. 15; Meuli 1946, 214, n. 1 = reprint 937–938, n. 3.

⁴ A neglected suggestion of Paul Stengel that holocaust victims were regularly cut open before being burnt (Stengel 1910, 90, n. 2) is similarly vindicated if my interpretation in Scullion 2009 of the evidence of the new inscription from Aixone is right.

⁵ des Courtils, Gardeisen & Pariente 1996, 799, 814, with the table of finds on p. 804. Gardeisen expresses due caution about the goats: “en effet, tous les ossements d’ovicaprinés n’ont pas été déterminés spécifiquement et seuls les moutons ont été attestés” (814, detailed discussion at 803). Ekroth 2007, 262 rightly describes all of these finds as predominantly “dinner debris”, so that they are not direct evidence for sacrificial procedure. Bones of goats and pigs—normally among the most frequent of sacrificial victims—are totally absent from Lots 1–3; pig bones are present in very small numbers in the Archaic Lots 4–5, and both goat and pig in greater numbers in the 4th-century BC Lot 6. The conclusion of des Courtils, Gardeisen & Pariente that pig and goat were not sacrificed is thus eminently plausible, and it may be that the presence in the 4th century of bones of pigs and goats that were eaten but not necessarily sacrificed is one example among many others (see further below)

of the consumption in sanctuaries of animals that were not meant to be sacrificed there, which it is possible became more common with time.

⁶ des Courtils, Gardeisen & Pariente 1996, 799–800. The inscription is *IG XII Suppl.* 414 = Sokolowski 1962, no. 63. Hdt. 2.44–45, in connection precisely with Herakles Thasios, approves of the practice of those who distinguish a divine from a heroic Herakles and make distinct offerings (θύειν and ἐναιγίζειν respectively) to each.

⁷ For discussion of the relevant issues with references to earlier contributions to the debate see Stafford 2005; I have discussed the text further at Scullion 2009, 164–165.

⁸ des Courtils, Gardeisen & Pariente 1996, 799–800 with 820 n. 6, who at 800 note the evidence of an offering table depicting Herakles’ club and lionskin for a heroon located in the agora.

tinct if homonymic cults of Herakles on Thasos, but rather of a single cult of a goat- and swine-averse Herakles whom the Thasians must have been conscious of worshipping in two different places and sacrificial modes, or in other words under two sharply contrasted aspects (whether or not one wishes to classify these as “Olympian” and “chthonian”). That is a possibility, raised by the animal bones, of some importance for the study of Greek understanding of divine identity.⁹

Finally, in this brief survey of answers brought by the bones, I turn to the zooarchaeological evidence from the sanctuary of Artemis at Kalapodi, ancient Hyampolis in Phokis.¹⁰ In this case, the results of the bone analysis can be brought into sharper relationship with the literary sources and the older scholarly discussion than they seem to have been hitherto.¹¹ In the period before the analysis of the animal bones, the most extended interpretation of the cult of Artemis at Hyampolis was Martin Nilsson’s in his *Griechische Feste* of 1906.¹² Nilsson rightly notes that the references by Plutarch *De mul. vir.* 244B–E and Pausanias 10.1.6 to the primary Phokian festival of Artemis focus on the aetiological story of the festival to the exclusion of ritual detail. Plutarch narrates the tale as the aition of the festival, which he definitely locates at Hyampolis, but Pausanias tells the story in the introduction to his account of the Phokians as a historical episode rather than an aition. Nilsson assumes, on the basis of the local month-name Laphrios, that the Phokians originally called the festival the Laphria, but Plutarch calls it Elaphebolia and a late inscription uses the double name “great Elaphebolia and Laphria.”¹³ On the basis both of the occurrence of the festival name Elaphebolia and of clear resemblances between cults of Artemis the huntress under the epithets Laphria, Elaphebolos, and Potnia Theron, Nilsson brings the goddess and the festival at Hyampolis into close relation-

ship with the Athenian Artemis Elaphebolos and her festival the Elaphebolia. The Laphria festival at Patrai, of which Pausanias, who says that he attended it, gives a full account (7.18.11–13), involves destruction by fire of all manner of chattels and live animals in large numbers, including such wild animals as bear, deer, roe deer, and wild boar. The aition of the Hyampolis festival relates that, before a decisive battle between the Phokians and the Thessalians (which seems to have taken place not long before the Persian invasion under Xerxes), the Phokians gathered together their women and children (and, in Pausanias, also clothing, gold, silver, and images of the gods) ready to be burnt—or, in the case of the women and children in Pausanias, put to the sword and then burnt—if the battle was lost; in the event the Phokians won, and the festival has been held henceforth in celebration of the victory. Nilsson is right that the political aspect of this aition has obscured the ritual process, but surely is also right to detect in the threatened mass destruction a close analogue with the Laphria festival at Patrai. Taking a step further, Nilsson notes that, as at Patrai wild animals including deer are burnt alive, so in our very limited evidence for the Elaphebolia festival at Athens one source tells us that the festival involved sacrifice of deer, another of cakes in the shape of deer.¹⁴ I quote Nilsson’s conclusion:

*Es wurden der Artemis Elaphebolos Hirsche geopfert, die als Kuchen in Form eines Hirsches zu verstehen sind. Der Kuchen ist Ersatz eines wirklichen Opfers, so daß auch in Athen einmal der Artemis ein Hirsch geopfert worden ist. Auch dieses Opfer scheint ein Rest von einem Feste zu sein, das den Laphrien ähnlich gewesen ist. Bezeichnend ist die Opferung von wilden Tieren; daß sie für Hyampolis nicht direkt bezeugt ist, wird aus der Beschaffenheit der Berichte verständlich, denen die Einzelheiten der Opferriten gleichgültig sind.*¹⁵

⁹ See e.g. Scullion 1994, where I argued against those who have tended to focus primarily on the “inner logic of the ritual” that we should pay closer attention to (relatively) consistent divine identities that bridge cult in different modalities and/or in different places.

¹⁰ The current excavator of Kalapodi, W.-D. Niemeier, has argued in a public lecture (as Robert Parker kindly informs me) that the sanctuary at Kalapodi may have belonged to Apollo of Abai rather than Artemis. If his view is eventually proven or prevails, my discussion must be set aside, but this seems at the moment to be very much an open question.

¹¹ In his analysis of the bones from Kalapodi, Stanzel (1991, 11 and 163–165) mentions only very briefly and in disagreement the account of the cult in Nilsson 1906, 221–225, which does not figure in the subsequent discussions of Felsch 2001, Ekroth 2007, 262–263, and Ekroth forthcoming.

¹² Nilsson 1906, 218–225. I cannot deal here with the many and important subsequent discussions of the festivals at Patrai and Hyampolis/Kalapodi; Pirenne-Delforge 2006, esp. 119–121, is a good recent article with full bibliographical references.

¹³ *IG* IX, 1, l. 90; see Nilsson 1906, 221–222; cf. Pirenne-Delforge 2006, 120–121.

The animal bones excavated at Kalapodi show that, among other victims, red deer and small numbers of fallow deer, roe deer, and wild boars—species normally among those the Greeks regarded as not suitable for sacrifice—were slaughtered and eaten. As the sacra and tailbones of these animals are not found in what is a deposit of “dining debris”, it is a safe

¹⁴ Nilsson 1906, 224, n. 1. *Anecd. Bekk.* 1.249 (from the *Lexeis Rhetorikai* in Paris): Ἐλαφηβολίων· μὴν Ἀθήνησι πέμπτος, ἐκλήθη δὲ ἀπὸ τῶν ἐλάφων, αἱ τινες τῷ μηνὶ τοῦτω ἐθύοντο τῇ ἐλαφηβόλῳ Ἀρτέμιδι [Translation:] “Elaphebolion: fifth month at Athens. It was named after the hinds which were sacrificed in this month to Artemis Elaphebolos (‘the deer-shooter’).” *Ath.* 14.646c: ΕΛΑΦΟΣ πλακοῦς ὁ τοῖς Ἐλαφηβολίοις ἀναπλασόμενος διὰ σταιτὸς καὶ μέλιτος καὶ σησάμου [Translation:] “DEER: The cake made at the Elaphebolia festival with spelt-dough, honey, and sesame.”

¹⁵ Nilsson 1906, 224.

inference that, as in the case of standard sacrificial victims, the sacra and tails (and possibly also thighbones) were removed and burnt in the altar fire as the divine portion.¹⁶ The bones therefore cohere with the picture of Artemis cult at Hyampolis and elsewhere restored by Nilsson from the literary and epigraphic evidence, and in general strikingly confirm the essential soundness of his analysis.

It is always of methodological interest to test scholarly conjecture against new evidence, but in this case the result is of wider importance. With the accession of the animal bones, our body of evidence now permits a rare glimpse into the development of a local cult complex over a long period. The festival rites were surely old and in a general way cognate with the Laphria at Patrai, but a new, historically inspired aition anchors the festival at Hyampolis to a crisis in Phokian history. In one respect the bones from Kalapodi are an important corrective to Nilsson's interpretation. To him the human sacrifice he thought was envisaged in Pausanias' story, where the women and children were to be slaughtered by the sword before being burnt, did not seem incredible,¹⁷ but we can now see that as far back as the evidence takes us we encounter banquet-sacrifice of wild animals but not evidence for human sacrifice, which scholars are nowadays chary of assuming.¹⁸ Compared with the aitia of the festivals at Patrai and Hyampolis, actual practice in the sanctuary, even in the earliest period, looks very "routinized".¹⁹ It is of course possible that such a mass destruction as Pausanias describes for the Laphria at Patrai may have taken place also at Hyampolis. When he mentions Hyampolis itself, however, Pausanias says nothing of a festival; he notes that the temple of Artemis was opened only twice a year, and so may be supposed to have missed attending the festival, but he has apparently not gathered from his local informants or written sources that such an usual and spectacular rite as that at Patrai took place there (Paus. 10.35.5–7). We may then cautiously conclude that, in combination, the zooarchaeological evidence, Plutarch's ritually-vague aition, Pausanias' transposition of the aition into Phokian history and silence about any festival at Hyampolis, and Nilsson's comparanda from Athenian cult suggest that at Hyampolis the festival was far less remarkable than at Patrai,

consisting essentially of sacrificial banquets involving a small minority of unusual, but distinctly Artemisian, wild victims. In a comparable process of routinization, at Athens cakes either replaced the sacrifice of deer or came in alongside it as a more modest offering by those unable to obtain or afford animals.

In terms of the wider questions about the zooarchaeological evidence to which I will now turn, the most important lesson of this case is that the banquet-sacrifices of deer and wild boar which the bones attest for Hyampolis can confidently be classified among the unusual cases of (ordinarily non-sacrificable) wild animals being prescribed as victims in regular sacrificial cult. There is no need, that is, to attempt to account for these bones by such expedients as the supposition that hunters may have brought suitable portions of their spoil for *ad hoc* dedication in the sanctuary.

Questions

In addressing some fundamental questions about Greek sacrifice that the zooarchaeological evidence seems to me to pose, I begin with the general observation that it is very important that we let the animal bones do any revolutionary work they may be able to do rather than arrest the process by hurrying anxiously to make them conform to the dominant general ideas of the day about Greek religion and sacrifice. If the abundant evidence of the animal bones becomes as centrally important as one expects it will, there is every possibility that it will alter even some of our most general ideas. That is after all how it's meant to happen, the concrete evidence shaping the generalizations rather than the other way round.

As an example, let us take the distinction between "secular" and "sacred"—a hobby-horse of my own, but also, given the new evidence, a natural focus of attention which draws comment in some of the papers in this volume and in other recent work on the zooarchaeological material. The fundamental question of how the distinction between sacred and secular worked, or indeed whether the Greeks really made such a distinction, is raised very urgently by what is perhaps the most striking, not to say startling feature of a majority of the animal bone deposits, the presence of butchered bones of what, from the point of view of our other evidence, are completely unexpected species in a sanctuary: dog, cat, horse, donkey, snake, bear, lion, and so on. The results from Poros discussed in this volume by Dimitra Mylona are a very exciting addition to the already widespread evidence for such "unusual animals".

It is still commonly held that the Greeks made little or no distinction between sacred and secular, and that everything at a sanctuary must in some sense be sacred. There seems to

¹⁶ Stanzel 1991, 162; Felsch 2001, 196–197. In a comment on my draft, G. Ekroth notes that "The long bones (including femora) are present though unusually fragmented, but recovered among the burnt bones, which from the Archaic period could include the altar debris". It may well be, therefore, that thighbones were offered alongside the tailbones.

¹⁷ Nilsson 1906, 223.

¹⁸ See above all Henrichs 1981.

¹⁹ Pirenne-Delforge 2006, esp. 125–127, argues that the Laphria festival at Patrai is a Roman foundation, and if this were right we should speak not of routinization of an originally more spectacular rite but of the later creation of a very elaborate rite for a goddess who had earlier received cognate offerings of wild victims.

be something of a tendency at present to jump to the conclusion that the “unusual animals” eaten in sanctuaries—animals that were not among τὰ θύσιμα, “those that are sacrificed” (e.g. Hdt. 1.50), that is not sheep, goats, pigs, or cattle—must nevertheless be classified not as secular or profane but as somehow “differently sacred” (as one might say).²⁰ We know that horse, dog, and donkey might in defined and exceptional cases be ritually slaughtered, but the evidence of the bones at a variety of sanctuaries shows that these animals were eaten but not sacrificed: there is no evidence that portions of them were given to the gods, and so far as I can see there is no justification whatever for speaking of the killing and eating of victims of which the gods received no portion as “sacrifice”.²¹ We know, on the other hand, from a passage of Hippocrates *On Diet* (*Vict.* 2.46) that Greeks ate not only “cattle, goat, pig, and sheep” but also “donkey, horse, dogs, wild boar, deer, hare, and fox”. The natural conclusion from the animal bones therefore is that in many Greek sanctuaries θύσιμα—victims of the acceptable species—were sacrificed at the altar, but that non-sacrificable species were presumably slaughtered and certainly cooked and eaten as part of the banqueting stage of some of these sacrificial events—above all, perhaps, at large events such as festivals. Robert Parker has demonstrated that Greeks certainly ate unsacrificed meat,²² so the consumption of animals that have not been sacrificed is not in itself surprising and must indeed have been a routine feature of Greek life. What is surprising to most scholars is that such consumption should take place at a sanctuary or during a festival. We must surely come to one of two conclusions about this: either non-sacrificable animals could in some unknown way, involving no gift to the gods, be “sacralized”,²³ or alternatively our notion of the relationship between sacred and profane at Greek sanctuaries and festivals is somewhat faulty and needs correction. To my mind the latter is the prudent and the right conclusion, but we ought at any rate to reckon with the possibility that it is our general concept that

is wrong, that we have assumed falsely either that the Greeks did not distinguish sacred from profane or that, if they did, they firmly and scrupulously banished the profane from the realm of the sacred, or at any rate from sanctuaries.

The primary point I am making is that we must not jump to conclusions, but I should like to make it by canvassing some reasons for favouring the less common conclusion. I have argued elsewhere that we modern scholars police the boundary between sacred and profane much more anxiously, and define the realm of the sacred much more inclusively, than the Greeks did. One way to put it is that we assume that what is obviously sacred—sacrifice and other ritual acts at the centre of a given festival or sacral event—had a much stronger “half-life” than was really the case. My own view is that the force of the central sacrality tapered off much more quickly and completely than is usually supposed, that for example there is no important sense in which the plays performed at festivals were sacred, any more than were the booths at which things were available for sale at festivals;²⁴ that, as the evidence of contemporary writers overwhelmingly attests, performance of the liturgy of *choregia* was not conceived in religious terms; that whereas the sacral core of a festival procession—the sacrificial victim(s) and officiant(s)—were sacred, the sometimes quite long “tail” of the procession was not;²⁵ and so on. I suspect that, after the sacrifice was performed and the god had his portion, the transition from the inner sanctuary with its altar to the banqueting area and the banquet corresponded to what in practical terms was a complete tapering off of the sacrality.²⁶ This is not surprising in a culture that so clearly put “orthopraxy” ahead of “orthodoxy”, in which ritual was primary and “belief” or “faith” rather marginal. On this view, once the sacrifice is over, the god has been given his due, and the appropriate prayers have been said, we proceed to the essentially profane business of the banquet, where, as it might be, the meat of the sacrificial victim(s) is supplemented with some donkey or some dog, meat which has no more to do with “the sacred” than the banquet as such and its attendant socializing and recreation do.

Let me attempt to justify these claims, or at any rate demonstrate their plausibility, by turning to the question of the co-existence of sacrificial and profane dining in the Greek world. Parker’s important paper on ‘Eating unsacrificed meat’ seems to me to have settled most matters relevant to that subject pretty definitively, though I shall here argue for a

²⁰ Ekroth 2007, esp. 255 and 266–269.

²¹ Parker 2010, 142 speaks of burning a portion for the gods as a “minimum requirement” even of an abbreviated sacrificial ritual conducted by a *mageiros*.

²² Parker 2010.

²³ As G. Ekroth points out to me, deposition of a portion on an offering table or in the manner of *theoxenia* are possible methods of sacralization which would leave no trace by way of burnt altar deposit, but it seems to me so unlikely that either of these will have been standard procedure in the case of otherwise non-sacrificable victims—in part because they seem to me less rather than more likely to “gloss over” the anomaly of the victim’s species, in part because sacrifice with burning of a portion is so much the normal procedure—that to support on such a basis the claim (already paradoxical in itself) that “non-sacrificable” animals that were eaten must in some way have been “sacrificed” seems to me a rearguard action against powerful contrary evidence.

²⁴ Scullion 2007, esp. 201–203.

²⁵ *Choregia*, processions: Scullion 2012.

²⁶ See Scullion 2012, and on the Greek terminology of “sacred” and “secular” Scullion 2005, 112–119. On the distinction between the inner “ritual zone” (as one might call it) and other parts of sanctuaries, see Scullion 2005, 115.

rather different view of one important issue. As Parker shows, there is no doubt that Greeks ate unsacrificed meat: animals hunted were normally eaten without being sacrificed; some animals that died naturally were also eaten, as the Greek terms for such meat, *κενέβρειον* and *θνησείδιον*, indicate; and, as I mentioned above, we know from Hippocrates and other sources that many non-sacrificial species figured in the Greek diet; it is also very likely that those animals of the sacrificable species that were “imperfect” and so could not be offered as sacrificial victims were nevertheless used as food.²⁷

The trickier question, on which Parker focuses his attention, is whether satisfactorily “perfect” animals of the sacrificable species were always sacrificed before their meat was consumed. Parker’s circumspect and cautious answer is that the view “can probably be defended” that what he calls “solemn banqueting” or “formal dining” was in principle preceded by sacrifice, but that “unsacrificed meat was also available in the market for more casual consumption.”²⁸ If this is right—and, despite the caveats I am about to enter, it may be—it would make all the more surprising the consumption of unsacrificed animals of non-sacrificable species at a banquet in a sanctuary, which is “formal dining” if anything is. I should like therefore, by way of approaching the zooarchaeological evidence attesting precisely such consumption in sanctuaries, to suggest that the evidence for formal dining on meat of sacrificable species that had not been sacrificed is rather more reliable than Parker allows.

In a recent monograph, Sarah Hitch makes a good case for the view that we find in Homer both sacrifice of animals with clear reference to the gods and non-sacrificial meat-eating without such reference; the verb used in the latter scenes (as in the former) is normally *ἑρεύειν*, but Hitch argues that it should in such contexts be translated “slaughter” rather than “sacrifice.”²⁹ Folkert van Straten has observed that both in Homer and on Greek vases there seems to be a clear distinction between sacrificial rites and dining, and that in neither case is there much at the dining stage to bring the sacrificial aspect to mind.³⁰ Such claims, and one’s reaction to them, are inevitably subjective, but the views of Hitch and van Straten seem to me eminently plausible, and my own inclination is to share them, concluding tentatively that for the Greeks dining can be an autonomous practice, independent of sacrifice. Parker points to the use in the Homeric passages of *ἑρεύειν* and concludes cautiously that “this is not . . . reliable evidence

for non-sacrificial killing”;³¹ many scholars would I expect see it, less cautiously, as strong counter-evidence to Hitch’s claim.

It is difficult to avoid *petitio principii* when taking a position on the question whether *ἑρεύειν* and the later standard term for sacrifice, *θύειν*, can mean “slaughter” rather than “sacrifice”, since if one of these is the only potentially sacrificial term employed in a given passage it becomes a question of whether or not one (subjectively) detects an element of sacrality in the same action of killing of an animal. There is no doubt that “sacrifice” is generally the right translation of these terms, but it would be the most natural sort of development if they could also in some contexts mean simply “slaughter”. The general linguistic process is familiar: “She’s in her sanctum, studying”, “The university has sanctioned the use of calculators in examinations”, and “The barber butchered my hair” are examples of technical terms in uses extended beyond their narrow or original sense. Application of the technical term for an activity to a closely similar but in some sense distinct activity is a natural development,³² and if *θύειν*, which originally and still in Homer means “turn to smoke” or “burn”, can come to mean “sacrificially kill” a cultic victim, it could just as easily develop the sense “slaughter” an animal. It is easy in the cases of *ἑρεύειν* and *θύειν*—whichever conclusion one reaches—to mistake for an objective criterion what is merely one’s instinct about whether or not a “reduced” sense is possible. Eustathius, at any rate, thought that *ἑρεύειν* had such a reduced sense: on *Od.* 2.56 he comments “Ὅτι ἑρεύειν οὐ μόνον τὸ θύειν ἀλλὰ καὶ τὸ ἀπλῶς σφάζειν, “ἑρεύειν” means not only ‘sacrifice’ but also simply ‘slaughter’.”³³

The evidence most commonly discussed in this connection, which well exemplifies the difficulties involved, is in *Odyssey* XIV. There the suitors’ steady consumption of Odysseus’ animals is scandalous, and beyond the term *ἑρεύειν* there is nothing to mark their procedure as sacrificial or their attitude as pious—as, Parker notes, one would not expect there to be.³⁴ When Eumaios says that he has sent a pig to the suitors ὄφρ’ ἑρεύσαντες κρειῶν κορεσάιαιτο θυμόν (*Od.* 14.28), “that sacrificing [or slaughtering] it they might satisfy their souls with meat”, Hitch wants to translate *ἑρεύσαντες* as “killing”;³⁵ and other scholars, both of Homer and of Greek religion, have taken the same view.³⁶ One can, however, choose to in-

²⁷ Parker 2010, 139–141, 144 (imperfect animals).

²⁸ Parker 2010, 139 (‘Abstract’), 144, 145.

²⁹ Hitch 2009, esp. 39–59.

³⁰ Van Straten 2005, 25–26.

³¹ Parker 2010, 141.

³² For good Homeric comparanda, see Hitch 2009, 54 n. 184.

³³ Eust. *Od.* 1434.16–17 ad 2.56 (Stallbaum, vol. 1, 82, lines 19–20), cf. Eust. *Od.* 1671.62. This text has been neglected in recent scholarship.

³⁴ Parker 2010, 141.

³⁵ Hitch 2009, 51.

³⁶ E.g. Heubeck & Hoekstra 1989, 194, where Hoekstra comments *ad loc.* “the meaning of ‘sacrificing’ is as good as lost here”; Stengel 1910, 1 (plausible if overconfident conclusions). Ebeling 1885, 1.585 s.v. distinguishes two senses of the verb: “a) sacra facio ... b) mactio, victimam

sist on the translation “sacrifice”, and, as the only criterion for determining which is the better translation would be a full documentary account of the suitors’ procedure such as Homer does not give us, we cannot advance from educated guess to assertion. Closer attention should be paid to *Od.* 14.94, where Eumaios tells us that day after day the suitors οὐ ποθ’ ἐν ἱερέουσ’ ἐρῆϊον, οὐδὲ δὴ οἶω, “never sacrifice just the one victim, nor only two”, where the redoubling of the term makes it a bit strained to translate “slaughter an animal” *vel sim.*, but even so it remains possible that in line 28 and elsewhere the context will have prompted a Greek to take ἱερεύειν at the “slaughter” end of its scale of meaning.³⁷

If it is granted that the terms in themselves cannot resolve the matter, we are thrown back on our interpretation of the scenes in which they are used, where again subjective responses are inevitably central. Attention has focused in *Odyssey* XIV primarily on the dinner that Eumaios cooks for Odysseus at lines 419–438, where there is explicit reference to pre-kill rituals, prayer, burning of a portion, and reservation of a seventh part of the cooked meat for the Nymphs and Hermes. This does not quite fit any of our standard models of sacrificial procedure, but it is clearly a sacrifice.³⁸ Insufficient attention has however been paid to the lunch that Eumaios prepared for Odysseus earlier in the book (*Od.* 14.74–80), where he hastens to lay a meal—also of pork, a sacrificial species—before the newly-arrived stranger. There we find no mention of the gods, prayer, or ritual procedures, but merely the verb ἱέρευσεν, which may mean simply “slaughtered”. To my mind, the difference between the two meals is telling, and not to be effaced by the assumption that procedures comparable to those described in the case of the dinner must be assumed also for the lunch (and indeed generally).³⁹ The difference between the two meals as Homer actually describes them is readily comprehensible: Eumaios, a proper Greek host, immediately feeds a guest arriving from a journey, without making a sacrifice; after his talk with the stranger, when the other swineherds return in the evening, our impression of Eumaios’ general worthiness is capped as he evinces his piety by sacralizing the preparation of dinner. It is plainly a plausible view that not all Homeric meals on sacrificable animals involved sacrifice, and it is surely more natural to take at face

value Homer’s descriptions of the two meals prepared by Eumaios and of others like them than to conclude that sacrificial procedures are commonly assumed rather than described, with astonishingly consistent omission in such cases of all cultic elements except the verb ἱερεύειν.⁴⁰ In the fullish description of Achilles’ preparation of a meal for Priam at *Iliad* 24.618–628 not only is no ritual element mentioned but the verb used is σφάζειν (623), which as we are about to see commonly means “slaughter” in the Classical period, and ἱερεύειν in several of its Homeric occurrences seems to be equivalent in sense to σφάζειν here.

Turning to the Classical period, we find a little, but very clear evidence for a distinction between “sacrifice” and “slaughter” in the terminology. In a passage from the Pseudo-Aristotelian *Oikonomika* of about 300 BC discussed by Parker, the citizens of Syracuse attempt to evade an imposition of taxes on livestock by the tyrant Dionysios I.⁴¹ First they “slaughter and sell” their animals; when Dionysios then restricts the number of animals that may be killed daily, they “turn them into sacrificial victims”. The Greek phrases are, respectively, σφάζοντες ἐπώλουν and ἱερόθυστα ἐποιοῦν. The verb σφάζειν (sometimes σφάττειν in Attic) strictly denotes the cutting of an animal’s throat, and though it can of course be used with sacrificial overtones, it is the most natural term for “killing” an animal in a neutral or non-cultic sense, which is what the context shows it must mean here. In Menander’s *Perikeiromene*, which is roughly contemporary with the *Oikonomika*, Polemon is keen to proceed quickly with the killing of a pig, suggesting urgently that the *mageiros* get on with it and then proposing to do it himself. Verbally, he proceeds from τὴν ὕν θ[υέτω (996) to ἀλλὰ ταύτην σφ[αττέτω (998), and with the passage of Pseudo-Aristotle in mind it is tempting to take the verbs as, respectively, “sacrifice” (or perhaps simply “slaughter”) and “kill”. The term ἱερόθυτος and its congeners ἱερόθυτεῖν and ἱερόθύτης are themselves interesting: strictly tautologous if the θυ- terminology invariably denotes sacrality, they are perfectly comprehensible as specifications of *sacral* killing if it does not.⁴²

vescendi causa sed ita ut diis primitiae debitae praestentur”, where the clause “sed ita ut etc.” is pure assumption on Ebeling’s part.

³⁷ Cf. Casabona 1966, 24: “En effet, ἱερεύω n’a pas de correspondant exact dans nos langues modernes: il est à la fois ‘sacrifier’ et ‘abattre pour manger’; suivant les cas, l’accent est mis sur un aspect ou sur l’autre” (his emphasis), though Casabona assumes that ἱερεύειν always implies some ritual procedure (18–26).

³⁸ See Parker 2010, 141–142 with references to other views.

³⁹ See also Stengel 1910, 59–65, esp. 62–63; Hitch 2009, 40–43 with brief summary of and references to earlier debate.

⁴⁰ One might argue that the lunch procedure is deliberately designed, on literary grounds, not to steal the thunder of Eumaios’ piety at dinner, but the avoidance of *any* cultic element (apart from the moot verb) would make this a rather forced argument.

⁴¹ Arist. [*Oec.*] 1349b7–14; Parker 2010, 143.

⁴² Parker 2010, 144 raises the possibility that ἱερόθυτος might mean “killed in a sanctuary” rather than “sacrificially killed”, but the lexicographical tradition’s equation of the term with θεόθυτος (Phrynichus 130 Fischer, cf. Lobeck 1820, 159 ad loc.) and the phrase ὁ ἱερόθυτος θάνατος of self-sacrifice in war at Pind. fr. 78 seem to me to make against this.

A passage in Porphyry's *De Abstinentia* which is probably excerpted from Theophrastos' *De Pietate* provides further, but difficult and contentious evidence.⁴³ Following the statement that we do not sacrifice donkeys or elephants or other animals that are useful to us but not tasty, Porphyry's text goes on:

καίτοι καὶ χωρὶς γε τοῦ θύειν οὐκ ἀπεχόμεθα τῶν τοιούτων, σφάττοντες διὰ τὰς ἀπολαύσεις, καὶ θύομεν αὐτῶν τῶν θυσίμων οὐ τὰ τοῖς θεοῖς, πολὺ δὲ μᾶλλον τὰ ταῖς ἀνθρώπων ἐπιθυμίαις κεχαρισμένα, καταμαρτυροῦντες ἡμῶν αὐτῶν ὅτι τῆς ἀπολαύσεως χάριν ἐμμένομεν τοῖς τοιούτοις θύμασιν.⁴⁴

"And yet even apart from sacrifice we do not abstain from such animals, slaughtering them because of our enjoyment, and of the sacrificable animals themselves we sacrifice not those which are gratifying to the gods, but far rather those which gratify the desires of men, bearing witness against ourselves that it is for the sake of enjoyment that we persist in such sacrifices."

It is clear that τῶν τοιούτων in the first clause cannot refer to the donkeys and elephants mentioned in the previous sentence, which we were told are precisely lacking in ἀπόλαυσις. Pötscher argues that the reference is to the sacrificable animals which were the topic of the sentences preceding that about the donkeys and elephants. This seems possible, but as Parker points out the consequence of following Pötscher is that the phrase αὐτῶν τῶν θυσίμων in our sentence, which would naturally be taken to be *shifting* the focus to sacrificable animals, becomes problematic. Porphyry is drawing closely on Theophrastos' work throughout this section of his essay, and perhaps he has produced some inconsistency through hasty or negligent excerption (or later copyists of Porphyry's text have done so). Still, the phrase καὶ χωρὶς γε τοῦ θύειν, "even apart from sacrifice" in the first clause surely must mean that whoever composed it had sacrificable animals in mind, and that these must therefore be the referents of τῶν τοιούτων. The use of the term σφάττοντες coheres with this, a further example of that verb in its sense of non-sacrificial killing of a sacrificable animal, as in the *Oikonomika* and probably in *Perikeiromene*, with both of which Theophrastos' work is contemporary. Thus, if we could be confident that even just the first clause of our sentence came from Theophrastos, it would be good further evidence for non-sacrificial consumption of sacrificable animals, but though it seems very likely that the phrase

is Theophrastean, it remains possible that it is a misleading product of Porphyrian pastiche.⁴⁵ Still, the passage has some value, taken alongside other evidence that points to the same conclusion, in the building of a cumulative case.

If the Archaic and Classical terminology points to the occurrence of non-sacrificial killing of sacrificable animals, so too do some later passages. In the first epistle to the Corinthians, Paul advises Christians on the question of eating meat that has been sacrificed to pagan gods. There is no objection to eating such meat (I Cor. 8:1–4), so "eat everything sold in the market and make no inquiries based on conscientious scruples" (I Cor. 10:25); likewise, if invited to dinner by an unbeliever, "eat everything set in front of you" without inquiry (I Cor. 10:27). On the other hand, one must be conscious of the possible effect on others, especially on "weak" Christians, if one knowingly and openly eats sacrificed meat,⁴⁶ and so if someone at the unbeliever's table identifies the meat served as ἐρόθυτον one should refuse to eat it (I Cor. 10:27–29). As Parker notes, an underlying assumption here is that both in the market and when dining it is possible to encounter meat of the same species that has or has not been sacrificed, which again attests non-sacrificial eating of θύσιμα.⁴⁷

It seems highly probable, if not quite certain, that Paul implies that meat on sale in the market was not normally identified as sacrificial or non-sacrificial, since otherwise his objection to eating identified ἐρόθυτον when dining out ought to apply, at least in certain circumstances (for example when shopping with a "weak" Christian), to buying such meat. Hence the host and fellow diners at a meal of meat from the market would be unaware whether it was ἐρόθυτον, as meat bought in the market can hardly have been sacrificed or re-sacrificed in the home. We should therefore expect that any ἐρόθυτον served at the sort of dinner Paul envisages would normally either have been sacrificed at home before dinner or be a portion of meat received raw by the host at a sacrifice elsewhere—which would also explain why he anticipates possible difficulty only when an unbeliever is host. As

⁴³ Parker 2010, 145–146 devotes an appendix to this sentence, and I accordingly compress my discussion. Pötscher 1964, 81–82 argues that the whole sentence refers to sacrificable animals, a conclusion which Parker allows is possible.

⁴⁴ Porph. *Abst.* 2.25 = Theophr. *De pietate*, fr. 12.78–83 Pötscher.

⁴⁵ I suspect that the original composer of the sentence slightly blurs or extends the sense of the term θύσιμα and meant by the phrase αὐτῶν τῶν θυσίμων what might be represented in English as "of the ones we (actually) sacrifice", his intention being to make a contrast with καὶ χωρὶς γε τοῦ θύειν. If this is correct, the contrast is between sacrificable animals that are not in fact sacrificed and those that are, in which case the whole sentence would be coherent.

⁴⁶ It is irrelevant from our point of view, but there is disagreement among New Testament scholars about the reason a Christian should not eat identified sacrificial meat. Some conclude that on Paul's view the meal becomes an act of pagan cult once the meat is identified as sacrificial; I follow those who think rather that the Christian must avoid appearing tolerant of pagan cult and so leading astray a "weak" Christian (see I Cor. 8:7–13).

⁴⁷ Parker 2010, 143.

Paul assumes that the Christian dinner-guest needs to be told that the meat is *ιερόθυτον*, and as he generates no scenario of such a guest encountering a domestic, pre-meal sacrifice, a takeaway sacrificial portion cooked at home is presumably what he has primarily in mind. All of this suggests strongly that non-sacralized dining on market-bought meat, which is evidently Paul's standard, safe model, must have been fairly routine.

The passage from the Pseudo-Aristotelian *Oikonomika* we discussed above coheres, as Parker notes, with the passage of Paul in suggesting that sacrificable animals might be butchered without sacrifice. This prompts Parker to say that “perhaps the attempt to deny the reality of simple slaughter for the market is misguided”, and he inclines to the view, as we noted above, that solemn banqueting would require preliminary sacrifice but that there will also have been “more casual consumption” of unsacrificed meat from the market.⁴⁸ It is here that I should like (perhaps incautiously) to push the argument a bit further, and to a rather different conclusion. Much of course turns on what we mean by “solemn” or “formal” as opposed to “casual”, but we probably ought to be reluctant to classify all the meals Paul has in mind as casual, as we should have to do if it were the case that everyone present on a formal occasion would know that the meat must have been sacrificed (and the Christian's informant would therefore not be revealing anything those present did not already know). There is some risk here that, in a circular confirmation of instinct, we may define solemn dining as dining preceded by sacrifice. I have no doubt that my own line of argument is affected by my instinct that non-sacrificial dining on sacrificable animals was common, but to my mind, however prejudiced, the considerations I have canvassed about Paul's statements and the unnaturalness of having to classify all the dinners he has in mind as informal point in the same direction. Certainty is not possible, but I add a bit of neglected evidence and one or two further arguments by way of suggesting that the case for routine non-sacrificial dining on θύσιμα is pretty clear.

The further piece of relevant evidence I have noticed is in a fragment of the comic poet Athenion, whose date is uncertain but perhaps as late as the 1st century BC.⁴⁹ In our one, lengthy fragment of Athenion, which describes how the *μαγειρική τέχνη*, “the butcher-cook's craft”, has lifted mankind from the depths of cannibalism to haute cuisine, there is this passage:

ὅθεν ἔτι καὶ νῦν τῶν πρότερον μεμνημένοι
τὰ σπλάγχνα τοῖς θεοῖσιν ὀπτῶσιν φλογὶ
ἄλας οὐ προσάγοντες· οὐ γὰρ ἦσαν οὐδέπω
εἰς τὴν τοιαύτην χρῆσιν ἐξευρημένοι.
ὥς δ' ἤρεσ' αὐτοῖς ὕστερον, καὶ τοὺς ἄλας
προσάγουσιν ἤδη τῶν ἱερῶν τεγεγραμμένων⁵⁰
τὰ πάτρια διατηροῦντες.⁵¹

“Hence even now, mindful of the old ways, they roast the viscera in the flame for the gods without adding salt, for they had not yet discovered that use of it. But as later its use pleased them, they now add salt, observing ancestral custom only in the case of sacral offerings.”

The natural reading of this is that viscera are now salted when they are not sacral offerings, but are left unsalted when they are, and that it refers primarily to animals of the sacrificable species, which might therefore either be sacrificed or cooked and eaten unsacrificed. One cannot be quite certain, but the repetition *ἄλας οὐ προσάγοντες . . . τοὺς ἄλας προσάγουσιν* ἤδη suggests very strongly indeed that the same animals are in mind, not that one now salts the viscera of (say) dog, donkey, or *κενέβρειον*. Taken in conjunction with the other passages pointing to the same conclusion, this appears to indicate that non-sacrificial use of sacrificable species was a familiar phenomenon. But an alternative reading of the passage is perhaps possible. It seems likeliest, given the run of the passage, that Athenion is talking about varying treatment of viscera, but it is possible that the contrast is between unsalted

⁵⁰ Clearly corrupt, but the general sense is not in doubt and would be given by the conjecture of Kaibel, who comments ad loc. in his edition of Athenaios “*velut τῶν ἱερῶν χρεῖα (s. καὶ ῥῶ) μόνον, i.e. in solis sacris faciundis salibus abstinebant*”, or by Gulick's *γε δρωμένων* or Naber's *γεγεννημένων*. There is a full and helpful discussion in Schweighäuser 1801–1807, 7. 670–674 (1805), still the standard commentary on Athenaios.

⁵¹ Athenion fr. 1.17–23 KA apud Ath. 14.660e–661d; for his date see Jacoby on *FGH Hist* 275 F 86. On the prohibition on salt see Stengel 1910, 13–14. Stengel 1910, 75–77 and Ziehen, *RE* 18.1 (1942), s.v. “Opfer”, 616–617; both assume that the viscera to which Athenion refers are the god's portion. It seems very likely (see Ziehen 617) that a portion of the *σπλάγχνα* was offered to the gods in the sense of being reserved for the priests, and Athenion's phrase *τοῖς θεοῖσιν* might be taken to indicate that only that portion is in question here. As the description *ὀπτῶσιν φλογὶ* indicates, however, we doubtless have to do here with what seems to have been the standard procedure, depicted on many vases, of so-called “splanchnopt” roasting the edible viscera on spits over the altar flame. The majority of the roasted viscera will have been eaten by participants in the sacrifice, and some reserved for god/priest, but all of it can be said to be “roasted for the god(s)”, for whom we have no indication that a separate spit of (unsalted) viscera was prepared. Thus the *σπλάγχνα* Athenion speaks of first will be combined sacrificers' and gods' portions, roasted and eaten without salt, whereas the latterday salting of *σπλάγχνα* will be profane usage.

⁴⁸ Parker 2010, 143.

⁴⁹ Berthiaume 1982, 35 quotes lines 40–41 of the fragment of Athenion in a different connection, but does not mention our passage, whose relevance to the present question seems to have escaped notice.

viscera and use of salt with the balance of the victim's meat.⁵² This would, however, involve the apparent implication that the flesh of a sacrificed victim need not be classified with τὰ ἱερά, "the sacred things", which seems very surprising—but if that were how the passage should be read it would support our general thesis in a different way by terminologically desacralizing the flesh of and banqueting on sacrificial victims. On that reading of the passage we should conclude that, even if such meat might still for some purposes be termed "sacally killed" (ἱερόθυτα), it was apparently felt that sacrality tapers off more or less completely, or at any rate that there is a clear and marked disjunction, between the sacrificial killing of the victim and the consumption of its flesh.

Further support can be derived from two passages about the wondrous restraint of the kites of Elis:

εἶναι δὲ φασι παρ' αὐτοῖς καὶ ἰκτίνους, οἱ παρὰ μὲν τῶν διὰ τῆς ἀγορᾶς τὰ κρέα φερόντων ἀρπάζουσι, τῶν δὲ ἱεροθύτων οὐχ ἄπτονται.⁵³

"And they say that among them [sc. the Eleans] there are kites which snatch meat from those carrying it through the market, but do not touch the ἱερόθυτα."

Θεόπομπος δὲ ἐν τοῖς Θαυμαστοῖς ἐν τῷ ἀγῶνι τῶν Ὀλυμπίων πολλῶν ἐπιπολῶντων ἰκτίνων ἐν τῇ πανηγύρει καὶ διασφυρίζοντων τὰ διαφερόμενα κρέα <τὰ> τῶν ἱεροθύτων ἀθιγῇ μένειν.⁵⁴

"Theopompos in his Wondrous Things says that at the contest of the Olympia, when at the festival the kites hover round and tear at the meat that is carried about, the meat of the ἱερόθυτα remains untouched."

In a much later passage, Pausanias 5.14.1 tells us that the kites do not harass people sacrificing at Olympia,⁵⁵ but that, if they do take a bit of viscera or meat, the sacrifice is regarded as unpropitious.⁵⁶ Theopompos, however—from whom the ac-

counts of Pseudo-Aristotle and Apollonios' *Mirabilia* will both have been taken—speaks according to Apollonios of meat carried round within the sanctuary, some of which is not ἱερόθυτα. Thus, meat of sacrificable species that has not been sacrificed, or of non-sacrificable species, or of both, is carried round in the sanctuary, any of which ought on current views to be surprising (and is important evidence on our central questions about the animal bones). Demosthenes 10.49–50 says that one can judge whether an ἀγορά or a πανήγυρις has been ill or well arranged by the quantity and cheapness of the things on sale, and we could readily reconcile Pseudo-Aristotle's and Apollonios' versions of Theopompos' story by assuming that the "agora" through which the meat is carried in the former account was originally a festival market in the sanctuary. So far as I know, nothing precludes the possibility that alongside free portions of sacrificial meat there may have been other meat for sale at festivals, and if there were it will no doubt have been differentially priced for species, quantity, and quality. In any event, Theopompos' tale, however fanciful, must have been comprehensible to his readers, and it therefore seems safe to conclude that they will have been familiar with the presence at festivals and in sanctuaries of meat from non-sacrificed θύσιμα, or from non-sacrificable animals, or both.

Perhaps we can go a step further. It surely makes the story less effective if we are to understand that the kites merely avoid all meat of sacrificable species—which is much less impressively discriminating than if they can distinguish sacrificed from unsacrificed beef, sheep, goat, and pork—and so snatch only donkey, dog, κενέβρειον, and so on. Of course one can read the passage in this way, but it is perhaps rather strained to have to take recourse again here, as in the case of Athenion, to unsacrificable species and carrion in order to preserve the notion that all or nearly all sacrificable animals must have been sacrificed before being eaten. The bones give evidence of the presence of butchered, non-sacrificable animals in sanctuaries, and we might reflect, first, that if in respect of the menu at sanctuary banquets we must swallow the camel of meat from non-sacrificable animals then we ought not to strain at the gnat of unsacrificed θύσιμα; secondly, that there is enough evidence elsewhere (Paul, the *Oikonomika*, Athenion, Homer) pointing to the eating of unsacrificed θύσιμα that we need not be surprised if some sacrificable ani-

⁵² I am grateful to Robert Parker for suggesting this possibility to me.

⁵³ Arist. [*Mir. ausc.*] 123, 842a34–842b2. For Theopompos as the probable source of this story and the date ca 300 BC see Susemihl 1891–1892, I. 478 with nn. 94 and 94b.

⁵⁴ Theopomp. *FGrHist* 115 F 76 apud Apollonios, *Mir.* 10 (2nd century BC).

⁵⁵ The kite was notorious for snatching sacrificed offal and meat, and Aristophanes calls it the "hearth-holding kite", ἰκτίνος ἐστίουχος (*Av.* 865): see e.g. Dunbar 1995 *ad loc.* and Olson 1998 on Ar. *Pax* 1099–1101, both with further references.

⁵⁶ Cf. also Plin. *HN* 10.28; Ael. *NA* 2.47. Parker 2010, 143 says of these stories that "the meat [the kites] snatched may have come from sacrifices to other gods; or it may have been donkey meat, or carrion". This, however, seems applicable primarily to the specification of the *Olympiae ... ara* by Pliny or ἡ τοῦ Διὸς ἱεουργία by Aelian (who, however, does not mention Olympia) and to the carrying of meat "through the agora" (as-

sumed to be outside the sanctuary) in the accounts of Pseudo-Aristotle and Aelian. (Plutarch speaks merely of "those sacrificing at Olympia.") The essential agreement of Pseudo-Aristotle and Apollonios, however, who are far the earliest sources, makes it highly probable that Apollonios is reporting Theopompos accurately, down to the phrase τῶν ἱεροθύτων. That Pseudo-Aristotle, who is earlier, does not name Theopompos as source, but Apollonios, who is later, does, suggests that each is drawing independently on Theopompos.

imals at a cultic occasion of any magnitude were eaten without being sacrificed.

I come finally to two subsidiary arguments in favour of the idea that animals were not normally eaten unless they had been, if not sacrificed in a strict sense, then at any rate somehow “sacralized”. As I noted above, it has been suggested that we might distinguish between “sacrificial meat” from the altar and “sacred meat” or the remaining meat consumed in the sanctuary.⁵⁷ The case for this seems to me to be based primarily on the long-held general assumptions that the Greeks ate only what they had sacrificed and that anything going forward in a sanctuary, and certainly anything so closely resembling the eating of sacrificial victims, must be somehow sacred; and the case therefore seems to me weak. The evidence of the animal bones is in fact fully consonant with Theopompos’ tale of the Elean kites, which attests the regular presence in a sanctuary of meat other than *ιερόθυστα*. Neither Theopompos’ kites nor his Greek audience seems to have known a category of “differently sacred” or semi-sacred meat which pious kites could, with a clear conscience, snatch.

In connection with the Greek *mageiros*, it has been similarly argued that meat for sale in the market must have been subject to “*abbatage rituel*”, butchery accompanied by an abbreviated form of dedication to the gods.⁵⁸ I cannot go into detail here, but this view is based largely on the model of the second, sacrificial meal prepared by Eumaios, which I discussed above. There seems to me no reason why this rather than the first, (in my view) non-sacrificial meal prepared by Eumaios should be used as a model; but nor indeed is there any justification for pressing either Homeric passage into service in the absence of any proper evidence for what, if anything, *mageiroi* may have done by way of ritual or prayer when slaughtering animals for the market. In both of these cases, then, it is clear that underlying assumptions about Greek sacrality are driving the argument.

I hope to have shown that the notion that both at home and in sanctuaries Greeks ate unsacrificed meat from both sacrificial and non-sacrificial species is a plausible suggestion, and that the animal bones are new and compelling evidence that we need to rethink the whole matter “from the ground up” as they say. We tend at the moment—primarily, it seems to me, as heirs of fashionable conceptual trends of the last century rather than through inductive study—to approach the question of the sacred and the secular among the Greeks with the

pith helmets of Frazerian anthropology on our heads, that is with the notion that we are seeing, and that it is both intellectually exciting and rather advanced of us to see, that the mind of the Greek Other is much more omni-sacralizing than our minds are. Another factor that can skew our conclusions is the axiom that the Greeks were not Christians, or more specifically not Protestants. This is of course true and important, but it must not become the basis of a crude hermeneutic leading us to believe that whenever we feel it possible to distinguish sharply between pagan and Christian behaviour we must be on to the truth and ought to do so. In any case, good Christians, including Protestants, say grace before every meal; perhaps pagans differed from them by sacralizing only some meals.

My own hunch is that in respect of dining the Greeks sacralized selectively rather than universally, and that they were not nearly as scrupulous as we have tended to imagine, as, by any reckoning, the introduction of meat of non-sacrificial species at sanctuary banquets suggests. Whatever the eventual outcome, it can only be beneficial to let the animal bones prompt us to a really fundamental reconsideration of the matter. We may, for example, conclude in the end not that everything eaten in a sanctuary must in some sense be sacred, but that, whereas at many sanctuaries non-sacrificable animals were routinely consumed in what were basically profane banquets, at some others, for example the site at Mytilene studied in this volume by Deborah Ruscillo, where such animals are markedly less present, a rather different ethos of sacrality or narrower sense of propriety may have been dominant. Such a conclusion might prove attractive partly because it would cohere with one of the most fascinating features of the zooarchaeological evidence so far published, which is that it attests what may be distinctive idiosyncracies of ritual practice in particular sanctuaries or cults—for example the predominance of left hind limbs for the hero Opheltes at Nemea revealed in Michael MacKinnon’s paper in this volume. Such vivid and illuminating revelation of local practice will be as important an aspect of future work on the animal bones as their contribution to the re-evaluation of broad conceptual matters.

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⁵⁷ Ekroth 2007, esp. 255 and 266–269; Ekroth’s case for the cultic commonality of all the meat eaten in a sanctuary rests, general assumptions aside, primarily on its having all been boiled, but Ekroth herself has shown that boiling is on other grounds the best method of preparation. See also Ekroth’s contribution to this volume.

⁵⁸ Berthiaume 1982, 64–69.

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Archéozoologie et pratiques rituelles :

méthodes, matériaux et perspectives

De ce colloque novateur et instructif par bien des aspects, on ne saurait tirer de conclusions définitives. Les communications offrent un ample éventail de thèmes qui, bien que centrés sur les recherches ostéologiques et archéozoologiques surtout en pays grec, s'étalent largement dans l'espace et le temps : depuis le néolithique et l'Âge du Bronze dans les civilisations égéennes (Isaakidou et Halstead), jusqu'à l'époque des Vikings en Suède (Magnell), en passant par des trouvailles singulières dans l'Anatolie méridionale (XIII^e siècle, Popkin). Il serait donc imprudent de vouloir conclure définitivement devant une telle variété de lieux et d'époques. En revanche, cette variété incite à la réflexion, soulève des questions et enrichit la problématique.

Dans son introduction, G. Ekroth a très bien mis en valeur les importants bénéfices qu'apporte à l'étude de la religion grecque l'usage de ce (relativement) nouvel outil qu'est l'examen du matériel archéozoologique, auquel on prête, de plus en plus, attention pendant les fouilles des divers sites. Tout particulièrement, dans le cadre des pratiques sacrificielles et culinaires des Grecs, qui se trouvent au centre de nos préoccupations ici, la recherche minutieuse des ossements peut bouleverser, et de façon parfois significative, certaines idées reçues. Des idées, mais aussi des théories, des hypothèses, des représentations, construites, au fil des années, par la lecture des textes, des inscriptions, ou des images, une lecture qui, ne prenant pas souvent en considération et de manière *conjointe* ces trois supports, aboutit forcément à des généralisations, voire à des conclusions unilatérales et fausses.

Ainsi, pour souligner une des plus importantes avancées dans ce domaine, c'est grâce à l'archéozoologie qu'une multitude d'espèces animales marque sa présence dans des sanctuaires, au-delà des animaux domestiques habituels (bovins, ovins, caprins, porcins) qu'on sacrifie et mange dans un contexte rituel. Des espèces fort diverses, qui vont d'animaux domestiques, comme les chevaux, les mules, les ânes, les chiens ou les poulets, aux bêtes dites « sauvages », en passant par divers représentants du gibier—on devrait rouvrir un jour le dossier de ce que plusieurs hellénistes appellent « les animaux sauvages », en s'interrogeant, de nouveau sur le sens que les

Grecs donnaient aux termes *agrios*, *agriotês*. Un monde animal varié, présent dans les sanctuaires, qui donc modifie fortement l'image que nous renvoient généralement les textes, les calendriers sacrificiels, ou les documents iconographiques. Ce qui nous force à repenser les relations entre dieux, hommes et animaux dans l'acte sacrificiel, à reconsidérer le statut des « victimes » qu'on amène aux autels, à réfléchir sur la nature de la viande consommée dans un espace sacré.

Mais les profits qu'on tire de la recherche archéozoologique vont beaucoup plus loin, comme il ressort par ailleurs de ce que nous avons entendu et appris durant ce colloque. Quelques exemples, qu'on se borne à mentionner ici de façon très brève et schématique, pourraient mettre en évidence la contribution plus que positive qu'apporte la documentation archéozoologique à une meilleure compréhension des faits culturels grecs. En effet, il convient de rappeler que, pour la compréhension du sacrifice, la documentation littéraire, épigraphique ou même archéologique, au sens académique du terme, a peu de chances d'être renouvelée en profondeur. Au contraire, grâce au matériel archéozoologique qui ne cesse d'augmenter au rythme des fouilles, on peut, par exemple : établir certaines différences significatives, voire de vrais contrastes, entre les époques (cf. Isaakidou & Halstead) ; —observer que les modalités sacrificielles peuvent fluctuer ou changer non seulement d'un lieu à un autre, d'une région à l'autre (cf. Popkin, l'exemple de Kilise Tepe), mais au sein du même sanctuaire, d'un autel à l'autre (cf. Brun et Leguilloux, l'exemple du Sarapieion C à Délos) ; —comparer les similitudes mais surtout les divergences marquées entre différentes cultures, en ce qui concerne le statut et la place qu'elles accordent aux animaux (domestiques ou « sauvages »), et à leur traitement spécifique dans les pratiques rituelles (Magnell, Popkin) ; —remarquer enfin, ce qui est fort important, que l'analyse archéozoologique pourrait, nous semble-t-il, mettre en question certaines oppositions binaires, trop tranchées, qui continuent à prospérer, comme, par exemple, sacré/profane ou olympiens/chthoniens (cf., à titre d'exemple, les positions de MacKinnon ou de Scullion).

L'intérêt de l'archéozoologie est bien là : elle s'inscrit dans le sillage d'une déconstruction des catégories traditionnelles de la religion grecque et ouvre des perspectives pour dépasser cette déconstruction. Depuis *La cuisine du sacrifice*, ouvrage édité par J.-P. Vernant et M. Detienne, paru en 1979, les travaux sur le sacrifice ont été renouvelés du tout au tout : encore récemment, G. Ekroth, avec son livre sur *The sacrificial rituals of Greek hero-cults* (2002), a ruiné définitivement plusieurs idées *a priori* qui perduraient encore sur la distinction entre dieux et héros à propos du sacrifice. Jusqu'à ce livre, les cultes héroïques étaient présentés comme organisés autour de certaines pratiques—le sacrifice d'un animal au moyen de l'*eschara* ou du *bothros*, l'holocauste complet de la victime, la *théoxénia*, les liens avec le culte rendu aux morts—, qui auraient été bien différentes des pratiques rituelles réservées aux dieux ouraniens, reposant sur le *bómos*, la *thusia* et le *symposion*. Toute la science du XIXe siècle avait accrédité ces divisions, sur la base de sources exclusivement littéraires. Justement, après les travaux sur le banquet engagés par les historiens et les archéologues de l'École de Paris, les recherches de G. Ekroth ont dénoncé un mirage, né notamment d'une surestimation des sources d'époque tardive, romaines et byzantines, soumises à une rationalisation des pratiques cultuelles inadéquates à l'histoire de la religion des siècles antérieurs. En définitive, c'est tout un modèle théorique fondé sur une opposition factice entre divinités olympiennes et divinités chthoniennes qui est remis en question, tant il semble en porte à faux avec la multiplicité des faits rituels et des pratiques sacrificielles. Les historiens aujourd'hui préfèrent une autre grille d'analyse, centrée sur la *thusia* comme sacrifice habituel indépendamment de la nature de la divinité concernée, même si, bien sûr, cette *thusia* peut être modifiée par des prescriptions spécifiques, en fonction du but recherché ou des circonstances. Le sacrifice est devenu une construction qui n'obéit en aucun cas à des règles de fonctionnement éternelles. Ce résultat a été obtenu par la reprise complète de la documentation textuelle.

Si la lecture pointilleuse des sources littéraires a permis ces dernières années de remettre en cause certains schémas théoriques (sacrifices héroïques, occultation ou non de la violence), elle n'a été possible que par une prise en compte systématique de la nature de la documentation utilisée et de la chronologie. Cette déconstruction progressive de la théorie—ou des théories—s'est accompagnée de la mise en avant de questions techniques et pratiques, les « technicalities » citées en introduction du colloque et pourtant décrites pendant longtemps par les chercheurs. Ces dernières années, l'analyse de plus en plus régulière de l'iconographie, en particulier vasculaire, avait déjà ouvert la voie à la prise en compte de la gestuelle (scènes d'ouverture de la carcasse et de découpe des animaux ...), des attitudes ou des postures (rapports entre

les fidèles, sacrificateurs et sacrifiants, et les divinités ...), des outils utilisés lors des sacrifices (objets de la mise à mort ou de la cuisine, question du stockage et de la conservation des viandes pendant ou à l'issue du rite ...). Bien des éléments pratiques qui alimentent la discussion théorique. Cependant il ne faut jamais négliger la nature de l'image : elle n'est qu'une construction partielle et partielle d'un rite et non l'exposition d'une réalité pratique, aussi soucieux des détails que soit le peintre et réaliste soit la scène. Ainsi ne doivent pas être sous-estimés : l'absence de certains éléments du rituel (absence de certaines formes d'autels bien attestées par l'archéologie, mise en avant d'un seul type de cuisson—le rôtissage), les effets de mode dans la production céramique ou la destination du vase, la diversité des productions (si les céramiques attiques représentent presque 80% des scènes de sacrifices sanglants, les autres productions—béotiennes, corinthiennes, siciliennes, lucaniennes, paestanes, apuliennes—mettent en images des rituels parfois fort différents qu'il faut alors mettre en série au sein d'un même corpus), l'impression d'uniformité d'un rite immuable, offrant ainsi le danger de simplement étayer une construction théorisée du sacrifice sanglant de type alimentaire. La faible représentation des ossements sur les vases—pour faire un lien plus direct encore avec le sujet du colloque—invite alors à des précautions méthodologiques qui s'appliquent au-delà de l'iconographie. Si l'on ne considérerait, sur un corpus de presque 500 scènes, que la vingtaine de scènes de transport de « gigots mous », la trentaine d'autels portant un *osphus* dans le feu ou les cranes un peu plus nombreux certes mais indiquant avant tout un temps (celui de la fête) et un espace (celui de l'espace sacrificiel) et non tel type d'animal à sacrifier, on pourrait douter de la place prépondérante dans le sacrifice du partage exposé par le mythe prométhéen, fixant la part des hommes et des dieux, le statut spécifique de la viande et de certains os. Une lecture de la seule source iconographique, un vaste corpus pourtant, offrirait une compréhension erronée des rituels. De ce court constat, il faut tirer quelques conclusions permettant aux vases d'éclairer les pratiques sacrificielles grecques, émettre quelques souhaits méthodologiques qui peuvent sans nul doute être étendus à la documentation osseuse. L'image doit être lue dans son intégralité, aucun geste ne doit être isolé pour lui-même ; elle doit être replacée dans une chronologie, qui reconnaît non seulement un schéma général, mais qui est aussi soucieuse de la variété et des évolutions possibles. Mais surtout elle doit être confrontée aux autres sources à disposition, en évitant l'écueil d'une image « éternelle » face à des textes à la large chronologie. Le cas cité des sacrifices héroïques a bien montré combien la nature des sources était essentielle dans la réévaluation d'une question que l'on croyait pour longtemps (définitivement ?) tranchée. C'est donc parce

qu'elle est étudiée par des méthodes d'historien que l'image peut aider à la compréhension de la religion grecque.

Se pose dès lors la question de savoir comment, puisque les catégories traditionnelles sont obsolètes, traiter la documentation archéologique ? Plus exactement, que nous apprend cette documentation, et en particulier la documentation archéozoologique ? Fr. Poplin a rappelé justement qu'un os a une forme, et qu'il s'apparente à une langue puisqu'il partage avec elle cette forme qui permet d'établir un vocabulaire, des articulations, des significations. Qu'espérer donc de ce langage : de simples études de cas, ou, mieux, une nouvelle taxinomie ?

Qu'il nous soit permis de faire quelques réflexions, de s'interroger sur certains aspects de cette nouvelle source si précieuse, de formuler quelques réticences, tout en laissant le champ ouvert à l'objection, puisqu'on sait bien que des certitudes ou des vérités absolues n'existent pas lorsqu'on s'aventure sur un terrain récemment tracé, qui reste encore mouvant.

Tout d'abord, s'il est vrai que le matériel archéozoologique constitue une source inestimable, susceptible de nous révéler ou, plutôt, de nous indiquer avec plus ou moins d'assurance certaines pratiques cultuelles ignorées (ou presque) des textes et des images, il ne saurait pour autant être considéré, dans tous les cas, comme un témoignage direct et évident, susceptible de nous renseigner sans ambiguïté sur l'activité culturelle d'un lieu. L'expérience a montré que toute source, qu'elle soit littéraire, épigraphique, archéologique ou autre, n'est pas exempte d'incertitudes, voire d'erreurs. Plusieurs participants du colloque n'ont pas manqué de recommander la prudence. Car on a parfois à faire à des ensembles hétéroclites et inégaux, ou encore à une quasi absence d'informations sur certains sujets importants, comme, par exemple, le passage ou la présence d'animaux à l'intérieur de l'espace humain, ce qui constitue pourtant un élément essentiel pour l'organisation des habitats ou des sanctuaires (cf. surtout Gardeisen). De plus, selon l'avis même des spécialistes, lorsqu'on découvre un ensemble d'ossements, il n'est pas toujours aisé de distinguer entre un dépôt d'offrandes sacrificielles, un dépôt rituel, et un dépôt de rebus, ou un assemblage qui résulterait d'autres activités non religieuses.

Quoi qu'il en soit, pour que l'analyse archéozoologique puisse produire ses meilleurs fruits, elle doit être menée en collaboration et en comparaison avec les autres types de sources. Le principe de la convergence des sources est ici, peut-être plus qu'ailleurs, un impératif catégorique de la recherche scientifique. On éviterait ainsi (comme d'ailleurs le souhaite, entre autres, Magnell) les interprétations préconçues, ou des modèles pré-établis (contre lesquels s'élève, à juste titre, Gardeisen). Ce qui nous amène à rappeler, au risque de se répéter, deux faits non négligeables. Tout d'abord,

que pendant longtemps la quête d'un « modèle originel » du sacrifice sanglant grec, quête qui remontait parfois jusqu'aux chasseurs de la préhistoire, avait conduit souvent à une impasse. L'archéozoologie n'est pas le fil conducteur intemporel et objectif qui offrirait la remontée dans le temps vers une forme sacrificielle originelle. En outre, il convient de dire qu'on ne saurait se contenter d'explorer *un* seul type de sources si l'on veut saisir *les* sens de ce rite sacrificiel par excellence, si l'on veut essayer de définir *les* formes que revêt chez les Hellènes l'immolation d'un animal. En effet, pour appréhender, autant que faire se peut, la diversité des actes et gestes sacrificiels, on aura besoin de tous les supports disponibles, qu'il s'agisse de textes littéraires, de documents épigraphiques, iconographiques, ou numismatiques, mais aussi de données archéologiques auxquelles des dépôts fauniques viennent, depuis quelques années, prêter main-forte. En élargissant ainsi le champ de recherche, on voit mieux pourquoi on a plutôt affaire non pas à ce qu'on appelle unanimement *le* sacrifice grec, en le considérant comme un ensemble plus ou moins uniforme, voire invariable, mais à *des* sacrifices qui peuvent présenter souvent des aspects fort différents et très circonstanciés. L'archéologue des ossements doit toujours se faire historien, c'est-à-dire demeurer attentif aux moindres inflexions, aux plus petites variations de la documentation qui permettent de restituer le contexte de construction du sacrifice.

Le problème des catégories ne se limite pas au problème de l'utilisation des sources. Il convient de revenir rapidement sur une tendance qui se fait jour régulièrement dans les études sur les sacrifices grecs—tendance vers la distinction implicite entre deux catégories générales. D'un côté, on aurait ce qu'on appelle, au choix, des sacrifices « normaux », « ordinaires », « réguliers », « standard », fondés sur une « pratique commune », et de l'autre, des sacrifices qui auraient dévié de la normalité sacrificielle, des actes considérés plutôt comme « anormaux », « inhabituels », « extraordinaires », « marginaux », ou bien désignés parfois (en anglais, et à la suite de Jameson) comme « powerful actions ». Les spécialistes s'accordent plus ou moins pour reconnaître des sacrifices qui se pratiquent selon les normes, en suivant un schéma bien établi : on processionne, on fait des prières et des libations, on répand des grains d'orge, on tue l'animal, on brûle sur l'autel les parts destinées aux dieux, on mange des *splanchna*, on consomme généralement la viande *in situ*, etc. Mais, ces mêmes spécialistes tombent moins d'accord, lorsqu'ils veulent définir ce qui rend un sacrifice « déviant », « inhabituel », « hors normes ». Sous ces qualifications, on mentionne d'habitude les holocaustes, les sacrifices purificateurs ou associés au serment, ceux qu'on accomplit avant une bataille, les immolations en l'honneur des morts ou des héros, mais encore les sacrifices humains.

Or, il ne semble pas que ce type de classification binaire aide beaucoup à la compréhension des sacrifices ou des rites de purification grecs, caractérisés par une grande variété de gestes et, souvent, par une extrême complexité rituelle. Une variété et une complexité difficiles parfois à percevoir, et qui sont dues, selon les cas, à des époques différentes, à des particularités locales, à des modifications provoquées par diverses raisons (décisions de la cité, introduction de nouveaux cultes, libéralités d'évergètes, etc.).

De ce point de vue, si l'on prend en compte ce contexte semé d'interrogations et d'incertitudes, on voit mal, par exemple, pourquoi un holocauste ne serait pas digne de faire partie des *thusiai* « normaux » des Grecs, sous prétexte (entre autres) que tout va à la divinité et rien aux hommes ; ou encore, lorsque le porcher Eumée tue un porc afin de restaurer Ulysse, tout en réservant, comme il se doit, le premier lot des viandes pour Hermès et les Nymphes (*Odyssée* XIV, 413–456), on ne comprend pas pourquoi cette immolation rituelle ne constituerait pas un « vrai sacrifice », sous prétexte qu'on n'y fait pas mention de consommation des *splanchna*, ou parce que les rites accomplis par Eumée ne correspondraient pas à nos « modèles standard » de la procédure sacrificielle. Mais, en fait, comment « standardiser », c'est-à-dire « uniformiser », encadrer, une réalité cultuelle si multiforme ? D'autant plus que les textes littéraires ou épigraphiques, qui décrivent un sacrifice ou qui se réfèrent, en bref ou en large, à l'activité sacrificielle des Grecs, mettent souvent l'accent sur *certaines* aspects de ces pratiques rituelles, aspects qu'ils veulent, pour une raison ou pour une autre, mettre en valeur. Ils ignorent, négligent ou passent ainsi sous silence, parfois même intentionnellement, d'autres facettes ou gestes de l'opération sacrificielle. On n'a donc presque jamais un tableau *complet*, brossé avec *tous* les ingrédients de ce rite fondamental de la religion grecque, pour qu'on puisse l'ériger en modèle, comme on le propose parfois. Ajoutons qu'au-delà des difficultés esquissées plus haut, on doit toujours faire la part des choses entre sacrifices publics, sacrifices à l'intérieur de l'*oikos*, ou sacrifices des particuliers accomplis dans un espace public, ce qui rend encore plus improductive la construction de modèles.

Finalement, on aimerait poser brièvement une autre question que l'écoute des analyses archéozoologiques, tout au long du colloque, a fait apparaître. Certaines de ces analyses font appel ou suivent de près diverses théories sur le sacrifice grec formulées, au fil du temps, par des spécialistes de la religion grecque. Mais la problématique portant sur les rites sacrificiels des Grecs, ainsi que sur les conceptions relatives aux divinités grecques, a beaucoup évolué pendant les dernières années, ce qui devrait être pris en compte pour l'interprétation du matériel archéozoologique. Plusieurs thèmes, en effet, sont repris et reconsidérés et continuent à stimuler la réflexion : on pourrait citer, à titre d'exemple, les notions de la violence

(et de sa prétendue occultation) ou de la culpabilité dans la mise à mort rituelle d'un animal ;—le *hiereion* et sa place dans l'économie générale du sacrifice, ses relations à la divinité ou encore son statut ;—la nature de ce qui revient aux dieux, aux hommes, ou aux agents culturels après la découpe de l'animal (on n'a pas fini encore avec le sens des termes *mèria* ou *mèroi*, comme le laisse entendre justement G. Ekroth vers la fin de son introduction), l'occasion également de réévaluer la place du sacrifice de type alimentaire dans la construction contemporaine d'un schéma théorique ;—la relation entre dieux et héros dans le contexte sacrificiel, ce qui a amené au réexamen de la formule « sacrifice héroïque » ;—le rapport entre sacrifice et purification, ce qui nécessite un nouveau retour sur le sens d'une autre expression-cliché, le « sacrifice purificateur ».

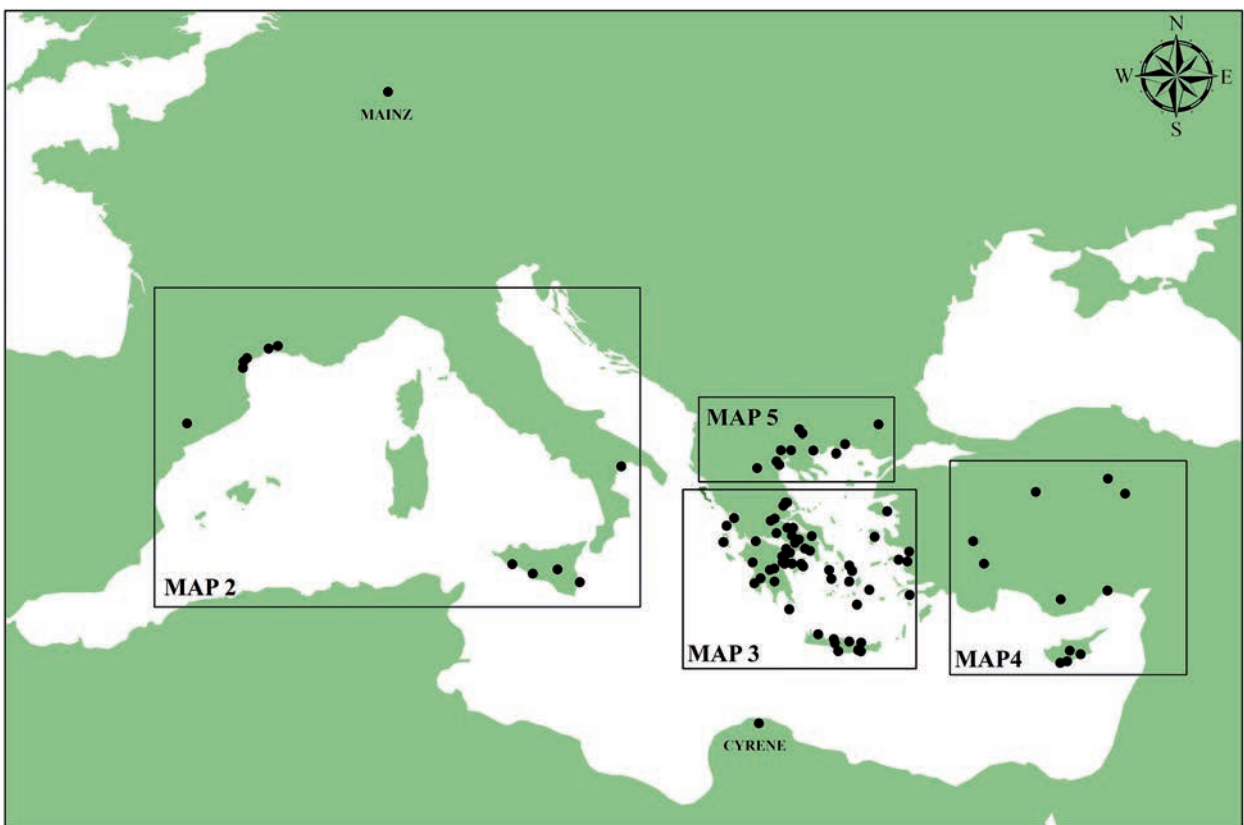
On pourrait, certes, allonger la liste des sujets, où la collaboration entre experts en archéozoologie et spécialistes de la religion grecque devient indispensable pour donner une vision plus accomplie et plus juste des rites sacrificiels en pays grec. Mais on souhaiterait, entre autres, que cette collaboration puisse clarifier davantage une question parmi les plus essentielles qui se posent de façon récurrente : comment choisit-on les animaux destinés aux différentes divinités, quels sont les facteurs qui déterminent ce choix, selon les lieux et les contextes ? En examinant les données littéraires, épigraphiques, iconographiques et même numismatiques, on s'aperçoit que la réponse n'est ni simple, ni univoque. C'est tout un ensemble de facteurs qu'il faut mobiliser, comme l'écosystème d'une région, le budget d'une communauté (par rapport au nombre de fêtes publiques, qu'elle veut célébrer), les raisons de prestige de divers donateurs ou évergètes, mais également la personnalité et l'histoire de la divinité honorée. Or, les données mentionnées plus haut ne suffisent pas pour que la réponse à cette question soit la plus complète possible. L'apport de l'analyse archéozoologique devient extrêmement utile, voire obligatoire, si on ne généralise pas à partir seulement des ossements (comme il arrive parfois), mais qu'on travaille—répétons-le—en synergie avec tous les outils que la culture grecque a laissés à notre disposition. En définitive, c'est à la condition d'être un historien que l'archéozoologue pourra apporter sa pierre à la compréhension si difficile du sacrifice dans les sociétés humaines.

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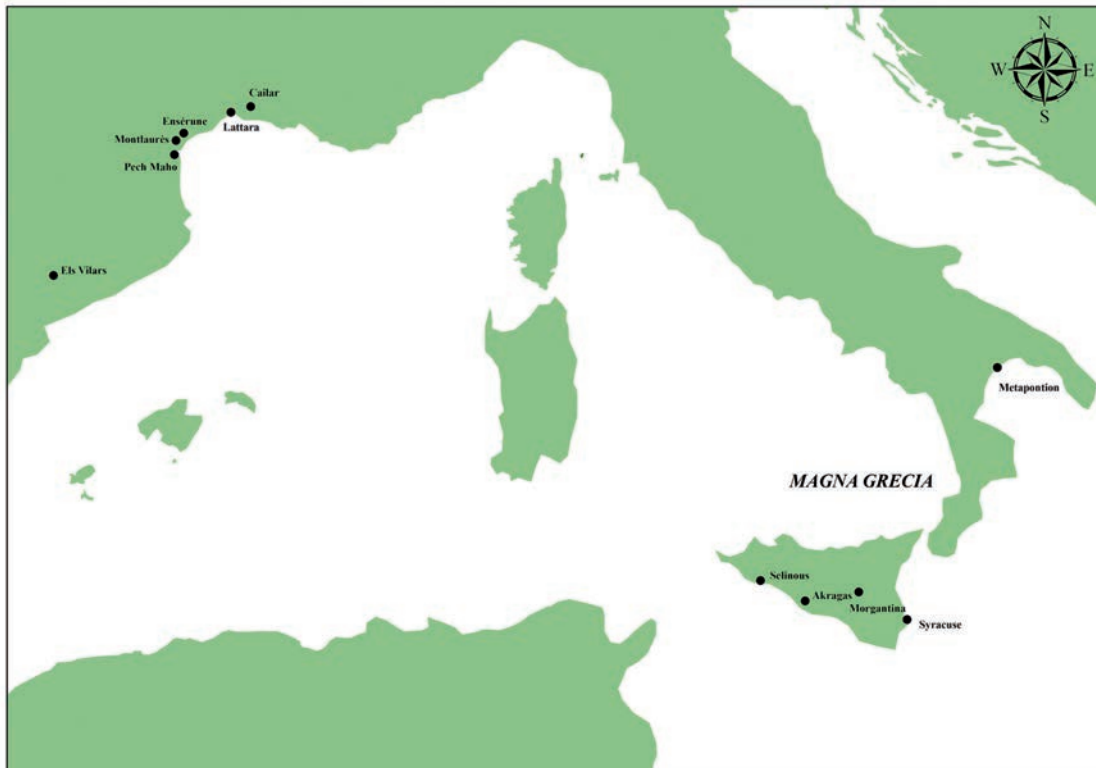
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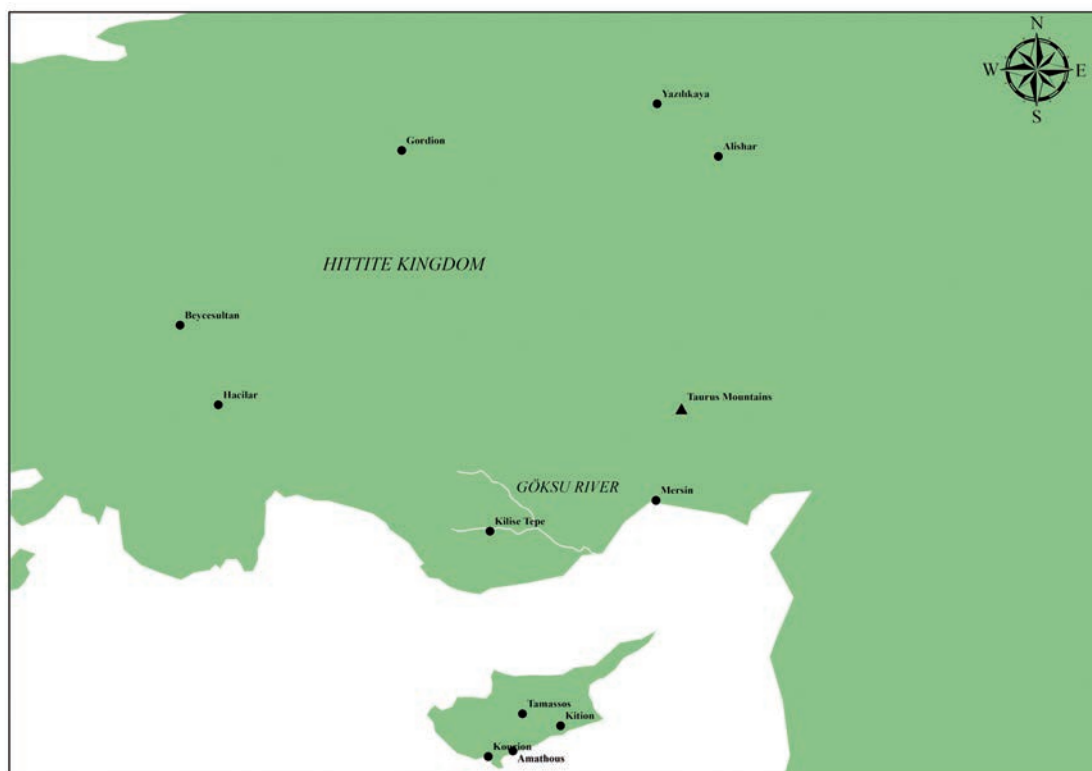
Map 1. Overview of maps showing the sites mentioned. By A. Bonnier.



Map 2. *The Western Mediterranean.* By A. Bonnier.



Map 3. *The Aegean.* By A. Bonnier.



Map 4. The Hittite Kingdom. By A. Bonnier.



Map 5. The northern Aegean. By A. Bonnier.



Map 6. The southern and central Scandinavia. By A. Bonnier.

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